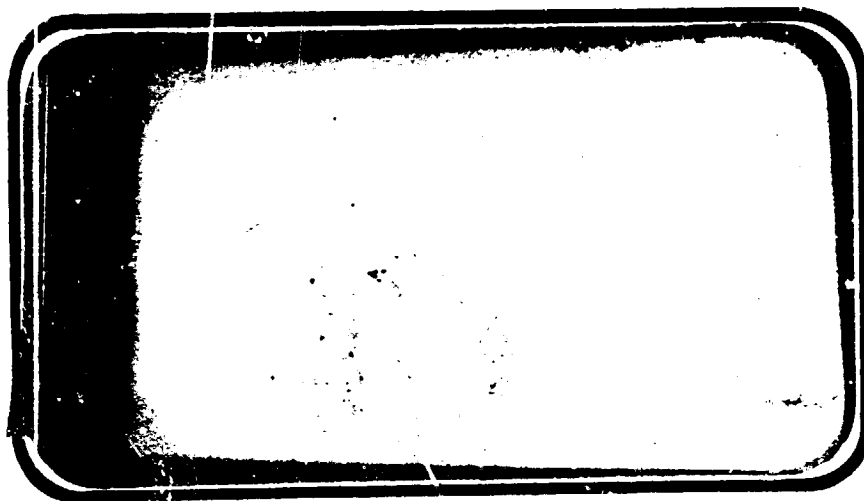


NASA

# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



NASA-CR-128792) EXPERIMENTAL  
INVESTIGATIONS OF AN 0.0405 SCALE SPACE  
SHUTTLE CONFIGURATION 3 ORBITER TO  
DETERMINE SUBSONIC STABILITY (Chrysler  
Corp.) 783 P HC \$41.25

CSCC 22B

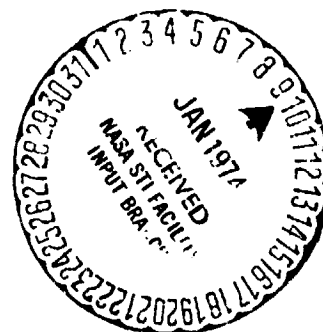
G3/31

Unclass  
26941

N74-15537

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



CHRYSLER  
CORPORATION

November, 1973

DMS-DR-2053  
NASA CR-128,792

VOLUME I

EXPERIMENTAL INVESTIGATIONS OF AN 0.0405 SCALE  
SPACE SHUTTLE CONFIGURATION 3 ORBITER TO  
DETERMINE SUBSONIC STABILITY CHARACTERISTICS  
(OA21A/OA21B)

By

B. W. Cameron and A. J. Ritschel  
Rockwell International

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas



WIND TUNNEL SPECIFICS:

Test Number: NAAL 705  
NASA Series No.: OA21A/OA21B  
Test Date: 21 May - 25 June, 1973  
Model: 43-0

FACILITY COORDINATOR:

R. B. Russell  
Rockwell International, B-1 Division  
Los Angeles International Airport  
Los Angeles, California 90009

Phone: (213) 670-9151-X3343

PROJECT ENGINEERS:

B. W. Cameron and A. J. Ritschel  
Rockwell International, B-1 Division  
Los Angeles International Airport  
Los Angeles, California 90009

Phone: (213) 670-9151-X3343

DATA MANAGEMENT SERVICES:

This document has been prepared by:

*for* D. A. Sarver  
Liaison Operations

B. W. Myers  
Data Operations

*W. R. Monroe*

*B. W. Myers*

This document has been reviewed and is approved for release.

FOR N. D. Kemp  
Data Management Services

*J. T. Klyne*

Chrysler Corporation Space Division assumes no responsibility for the data presented herein other than its display characteristics.

EXPERIMENTAL INVESTIGATIONS OF AN 0.0405 SCALE  
SPACE SHUTTLE CONFIGURATION 3 ORBITER TO  
DETERMINE SUBSONIC STABILITY CHARACTERISTICS (OA21A/OA21B)

By

B. W. Cameron and A. J. Ritschel  
Rockwell International

ABSTRACT

Experimental aerodynamic investigations were conducted in the NAAL Low Speed Wind Tunnel from May 21 through June 4 and from June 18 through June 25, 1973 on a 0.0405 scale -139B model Space Shuttle Vehicle (SSV) orbiter. The purpose of the test was to investigate the longitudinal and lateral-directional subsonic aerodynamic characteristics of the Rockwell International proposed PRR Space Shuttle Orbiter. Emphasis was placed on component buildup effects, elevon, rudder, body flaps, rudder flare effectiveness, and canard and speed brake development.

Angles of attack from  $-4^{\circ}$  to  $24^{\circ}$  and angles of sideslip of  $-10^{\circ}$  to  $10^{\circ}$  were tested. Static pressures were recorded on the base.

The aerodynamic force balance results are presented in plotted and tabular form.

DMS-DR-2053 will be published in two volumes. Data for NASA Series No. OA21A will be published as volume I and OA21B as volume II.

(THIS PAGE INTENTIONALLY LEFT BLANK)

## TABLE OF CONTENTS

	PAGE
ABSTRACT .....	iii
INDEX OF MODEL FIGURES .....	2
INDEX OF DATA FIGURES .....	5
NOMENCLATURE .....	13
CONFIGURATIONS INVESTIGATED .....	18
TEST FACILITY DESCRIPTION .....	20
DATA REDUCTION .....	22
TABLES	
I TEST CONDITIONS .....	23
II DATA SET COLLATIONS .....	24
III MODEL COMPONENT DIMENSIONAL DATA .....	40
IV SUMMARY OF CANARD GEOMETRIES .....	76
V SUMMARY OF SPEED BRAKE GEOMETRIES .....	79
FIGURES	
MODEL .....	80
DATA .....	110
APPENDIX - TABULATED SOURCE DATA	

# INDEX OF MODEL FIGURES

<u>FIGURE</u>	<u>TITLE</u>	<u>PAGE</u>
1	Axis Systems	81
2	Model Sketches	
	a. General Arrangement	82
	b. Trimmer Types	83
	c. $H_2$ Trimmer	84
	d. $H_3$ Trimmer	85
	e. $H_4$ Trimmer	86
	f. $H_5$ Trimmer	87
	g. $H_6$ Trimmer	88
	h. $H_7$ Trimmer	89
	i. $H_8$ Trimmer	90
	j. $H_9$ Trimmer	91
	k. $H_{10}$ Trimmer	92
	l. $H_{11}$ Trimmer	93
	m. $H_{12}$ Trimmer	94
	n. $H_{13}$ Trimmer	95
	o. $H_{16}$ Trimmer	96
	p. $H_{17}$ Trimmer	97
	q. $H_{23}$ Trimmer	98
	r. $H_{25}$ Trimmer	99

# INDEX OF MODEL FIGURES (CONTINUED)

<u>FIGURE</u>	<u>TITLE</u>	<u>PAGE</u>
3	Model Photographs	
a.	Configuration: B19C7M4F5W107E23V7R6 Front View	100
b.	Configuration: B19C7M4F5W107E23V7R6 Right Rear View	100
c.	Configuration: B19C7M4F5W107E23V7R6 Left Rear View	101
d.	Configuration: B19C7M4F5W112E23V7R6	101
e.	Configuration: B21C7M4F5W107E23V7R6	102
f.	Configuration: B19C7M4F6W107E23V7R6	102
g.	Configuration: B19C7M4F5W107E23V7F5Z5Z3	103
h.	Configuration: B19C7M4F5W107E23V7R6Z2	103
i.	Configuration: B19C7M4F5W107E23V7R6Z5	104
j.	Configuration: B19C7M4F5W107E23V7R6Z4	104
k.	Configuration: B19C7M4F5W107E23V7R6Z2Z3	105
l.	Configuration: B19C7M4F5W107E23V7R6Z4	105
m.	Configuration: B19C7H7M4F5W107E23V7R6X9	106
n.	Configuration: B19C7H6M4F5W107E23V7R6X9	106
o.	Configuration: B19C7H8M4F5W107E23V7R6X9	106
p.	Configuration: B19C7H9M4F5W107E23V7R6X9	106
q.	Configuration: B19C7H11M4F5W107E23V7R6X9	107
r.	Configuration: B19C7H10M4F5W107E23V7R6X9	107
s.	Configuration: B19C7H12M4F5W107E23V7R6X9	107

# INDEX OF MODEL FIGURES (CONCLUDED)

<u>FIGURE</u>	<u>TITLE</u>	<u>PAGE</u>
t.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>13</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	107
u.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>15</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	108
v.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>14</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	108
w.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>16</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	108
x.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>17</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	108
y.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>23</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	109
z.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>18</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	109
aa.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>24</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	109
bb.	Configuration: B <sub>19</sub> C <sub>7</sub> H <sub>25</sub> M <sub>4</sub> F <sub>5</sub> W <sub>107</sub> E <sub>23</sub> V <sub>7</sub> R <sub>6</sub> X <sub>9</sub>	109

# INDEX OF DATA FIGURES

FIGURE NUMBER	TITLE	COEFFICIENTS SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 4	Longitudinal Configuration Component Effects	A	Configuration	1-9
Fig. 5	Reynolds Number Effects	A	Re/L, Mach, $\alpha$	10-18
Fig. 6	Longitudinal Characteristics (Small Elevon Deflections)	A, B	ELEVON, MAXELE, DELELE	19-29
Fig. 7	Longitudinal Characteristics (Large Elevon Deflections)	A, B	ELEVON, DELELE, MAXELE	30-40
Fig. 8	Elevon Effectiveness With H2 Canard at 0 Deg. Incidence	A, B	ELEVON,	41-51
Fig. 9	Elevon Effectiveness With H2 Canard at 10 Deg. Incidence	A, B	ELEVON	52-62
Fig. 10	Elevon Effectiveness With H2 Canard at 20 Deg. Incidence	A, B	ELEVON	63-73
Fig. 11	Elevon Effectiveness With H3 Canard at 0 Deg. Incidence	A, B	ELEVON	74-84
Fig. 12	Elevon Effectiveness With H3 Canard at 10 Deg. Incidence	A, B	ELEVON	85-95
Fig. 13	Elevon Effectiveness With H3 Canard at 20 Deg. Incidence	A, B	ELEVON	96-106
Fig. 14	Elevon Effectiveness With H4 Canard at 0 Deg. Incidence	A, B	ELEVON	107-117



# INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	COEFFICIENTS SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 15	Elevon Effectiveness With H4 Canard at 10 Deg. Incidence	A, B	ELEVON	118-128
Fig. 16	Elevon Effectiveness With H4 Canard at 20 Deg. Incidence	A, B	ELEVON	129-139
Fig. 17	Elevon Effectiveness With H5 Canard at 0 Deg. Incidence	A, B	ELEVON	140-150
Fig. 18	Elevon Effectiveness With H5 Canard at 10 Deg. Incidence	A, B	ELEVON	151-161
Fig. 19	Elevon Effectiveness With H5 Canard at 20 Deg. Incidence	A, B	ELEVON	162-172
Fig. 20	Elevon Effectiveness With H6 Canard	A, B	ELEVON	173-183
Fig. 21	Elevon Effectiveness With H7 Canard	A, B	ELEVON	184-194
Fig. 22	Elevon Effectiveness With H8 Canard	A, B	ELEVON	195-205
Fig. 23	Elevon Effectiveness With H9 Canard	A, B	ELEVON	206-216
Fig. 24	Elevon Effectiveness With H10 Canard	A, B	ELEVON	217-227
Fig. 25	Elevon Effectiveness With H11 Canard	A, B	ELEVON	228-238

INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	COEFFICIENTS SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 26	Elevon Effectiveness With H12 Canard	A, B	ELEVON	239-249
Fig. 27	Elevon Effectiveness With H13 Canard	A, B	ELEVON	250-260
Fig. 28	Elevon Effectiveness With H14 Canard (45 Deg. Dihedral)	A, B	ELEVON	261-271
Fig. 29	Elevon Effectiveness With H15 Canard (45 Deg. Dihedral)	A, B	ELEVON	272-282
Fig. 30	Elevon Effectiveness With H16 Canard	A, B	ELEVON	283-293
Fig. 31	Elevon Effectiveness With H17 Canard	A, B	ELEVON	294-304
Fig. 32	Elevon Effectiveness With H18 Canard	A, B	ELEVON	305-315
Fig. 33	Elevon Effectiveness With H19 Canard	A, B	ELEVON	316-326
Fig. 34	Elevon Effectiveness With Canard Off	A, B	ELEVON	327-337
Fig. 35	Longitudinal Effects of Aileron Deflection	A	ELEVON, AILERON	338-346
Fig. 36	Longitudinal Effects of H2 Canard Incidence	A	CANARD	347-355

# INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 37	Longitudinal Effects of H3 Canard Incidence	A	CANARD	356-364
Fig. 38	Longitudinal Effects of H4 Canard Incidence	A	CANARD	365-373
Fig. 39	Longitudinal Effect of H5 Canard Incidence	A	CANARD	374-382
Fig. 40	Longitudinal Effect of H2 Canard	A	CANARD	383-391
Fig. 41	Longitudinal Effect of Speed Brake	A	SPDRK	392-400
Fig. 42	Longitudinal Effect of Body Flap Deflection	A	BDFLAP	401-409
Fig. 43	Longitudinal Effect of OMS Pod	A	Configuration	410-418
Fig. 44	Lateral/Directional Configuration Component Effects (Alpha = 0)	C	Configuration	419-421
Fig. 45	Lateral/Directional Configuration Component Effects (Alpha = 10)	C	Configuration	422-424
Fig. 46	Lateral/Directional Configuration Component Effects (Alpha = 15)	C	Configuration	425-427
Fig. 47	Lateral/Directional Configuration Component Effects (Alpha = 20)	C	Configuration	428-430

# INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	COEFFICIENTS SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 48	Lat/Dir Derivative Variation With Alpha (Body)	D		431-433
Fig. 49	Lat/Dir Derivative Variation With Alpha (Body + Canopy)	D		434-436
Fig. 50	Lat/Dir Derivative Variation With Alpha (Body + Canopy + EDFLAP)	D		437-439
Fig. 51	Lat/Dir Derivative Variation With Alpha (Body + Canopy + EDFLAP + Wing)	D		440-442
Fig. 52	Lat/Dir Derivative Variation With Alpha (Body + Canopy + EDFLAP + Wing + QMS)	D		443-445
Fig. 53	Lat/Dir Derivative Variation With Alpha (Total Configuration)	D		446-448
Fig. 54	Lateral/Directional Effects of Aileron Deflection	E, F	MAXAIL, DELAIL, ELEVEN, AILRON	449-454
Fig. 55	Rudder Effectiveness With SPDRK = 0 and Alpha = 0	C	Rudder	455-457
Fig. 56	Rudder Effectiveness With SPDRK = 0 and Alpha = 10	C	Rudder	458-460
Fig. 57	Rudder Effectiveness With SPDRK = 0 and Alpha = 15	C	Rudder	461-463
Fig. 58	Rudder Effectiveness With SPDRK = 0 and Alpha = 20	C	Rudder	464-466

# INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	COEFFICIENTS SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 59	Variation of Rudder Control Derivatives With Alpha for SPDBRK = 0	G	MAXRUD	467-469
Fig. 60	Rudder Effectiveness With SPDBRK = 25 and Alpha = 0	C	Rudder	470-472
Fig. 61	Rudder Effectiveness With SPDBRK = 25 and Alpha = 10	C	Rudder	473-475
Fig. 62	Rudder Effectiveness With SPDBRK = 25 and Alpha = 15	C	Rudder	476-478
Fig. 63	Rudder Effectiveness With SPDBRK = 25 and Alpha = 20	C	Rudder	479-481
Fig. 64	Variation of Rudder Control Derivatives With Alpha for SPDBRK = 25	G	MAXRUD	482-484
Fig. 65	Rudder Effectiveness With SPDBRK = 55 and Alpha = 0	C	Rudder	485-487
Fig. 66	Rudder Effectiveness With SPDBRK = 55 and Alpha = 10	C	Rudder	488-490
Fig. 67	Rudder Effectiveness With SPDBRK = 55 and Alpha = 15	C	Rudder	491-493
Fig. 68	Rudder Effectiveness With SPDBRK = 55 and Alpha = 20	C	Rudder	494-496
Fig. 69	Variation of Rudder Control Derivatives With Alpha for SPDBRK = 55	G	MAXRUD	497-499

# INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	COEFFICIENTS SCHEDULE	VARYING PARAMETERS	PAGE NUMBER
Fig. 70	Rudder Effectiveness With SPDBRK = 85 and Alpha = 0	C	Rudder	500-502
Fig. 71	Rudder Effectiveness With SPDBRK = 85 and Alpha = 10	C	Rudder	503-505
Fig. 72	Rudder Effectiveness With SPDBRK = 85 and Alpha = 15	C	Rudder	506-508
Fig. 73	Rudder Effectiveness With SPDBRK = 85 and Alpha = 20	C	Rudder	509-511
Fig. 74	Variation of Rudder Control Derivatives With Alpha for SPDBRK = 85	G	MAXRUD	512-514
Fig. 75	Lateral Directional Effects With 0 Deg. Speed Brake Deflection	C, D	ALPHA	515-520
Fig. 76	Lateral Directional Effects With 25 Deg. Speed Brake Deflection	C, D	ALPHA	521-526
Fig. 77	Lateral Directional Effects With 55 Deg. Speed Brake Deflection	C, D	ALPHA	527-532
Fig. 78	Lateral Directional Effects With 85 Deg. Speed Brake Deflection	C, D	ALPHA	533-538
Fig. 79	Lateral Directional Effects Without OMS Pod (SPDBRK = 55 Deg.)	C	ALPHA	539-541
Fig. 80	Lateral Directional Effects of 1/2 Canard (SPDBRK = 55 Deg.)	C	ALPHA	542-544

INDEX OF DATA FIGURES (CONCLUDED)

COEFFICIENTS SCHEDULE:

- A) CL, L/DF, CAF, CAB, CN, XCP/L, CIM vs. ALPHA  
CL vs. CDF, CL vs. CIM
- E) DCL/DE, DCIMDE vs. ALPHA
- C) CYN, CBL, CY vs. BETA
- D) DCYNDB, DCBLDB, DCY/DB vs. ALPHA
- E) CYN, CBL, CY vs. ALPHA
- F) DCYNDA, DCBLDA, DCY/DA vs. ALPHA
- G) DCYNDR, DCBLDR, DCY/DR vs. ALPHA

NOMENCLATURE  
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C <sub>p</sub>	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; $V/a$
p		pressure; N/m <sup>2</sup> , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$ , N/m <sup>2</sup> , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
$\alpha$	ALPHA	angle of attack, degrees
$\beta$	BETA	angle of sideslip, degrees
$\psi$	PSI	angle of yaw, degrees
$\phi$	PHI	angle of roll, degrees
$\rho$		mass density; kg/m <sup>3</sup> , slugs/ft <sup>3</sup>

Reference & C.G. Definitions

Ab		base area; m <sup>2</sup> , ft <sup>2</sup>
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$l_{REF}$ c	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m <sup>2</sup> , ft <sup>2</sup>
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
$\infty$	free stream
BC	balance chamber
T	weight tare
1,2,---5	condition at station No 1,2,---5, respectively
B	body



# NOMENCLATURE (Continued)

## Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_N$	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
$C_A$	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_{A_b}$	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$
$C_{A_f}$	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS L_{REF}}$
$C_n$	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
$C_l$	CLL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

## Stability-Axis System

$C_L$	CL	lift coefficient; $\frac{\text{lift}}{qS}$
$C_D$	CD	drag coefficient; $\frac{\text{drag}}{qS}$
$C_{D_b}$	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
$C_{D_f}$	CDF	forebody drag coefficient; $C_D - C_{D_b}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS L_{REF}}$
$C_n$	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
$C_l$	CLL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
$L/D$	L/D	lift-to-drag ratio; $C_L/C_D$
$L/D_f$	L/DF	lift to forebody drag ratio; $C_L/C_{D_f}$

NOMENCLATURE (CONTINUED)  
ADDITIONS TO NOMENCLATURE

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_{y\beta}$	DCY/DB	side force coefficient derivative with respect to beta. Algebraic difference of the side force coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; per degree.
$C_{n\beta}$	DCYNDB	yawing moment coefficient derivative with respect to beta. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; body axis system; per degree.
$C_{l\beta}$	DCBLDB	rolling moment coefficient derivative with respect to beta. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the side slip angle of the runs; body axis system; per degree.
$C_{y\delta_a}$	DCY/DA	side force coefficient derivative with respect to total aileron deflection. Algebraic difference of the side force coefficients of two runs divided by deflection angle of the runs; per degree.
$C_{n\delta_a}$	DCYNDA	yawing moment coefficient derivative with respect to total aileron deflection. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the total aileron deflection angle of the runs; body axis system; per degree.
$C_{l\delta_a}$	DCBLDA	rolling moment coefficient derivative with respect to total aileron deflection. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the total aileron deflection angle of the runs; body axis system; per degree.
$C_{y\delta_r}$	DCY/DR	side force coefficient derivative with respect to rudder deflection. Algebraic difference of the side force coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree.

# NOMENCLATURE (Continued )

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_{n\delta_r}$	DCYNDR	yawing moment coefficient derivative with respect to rudder deflection. Algebraic difference of the yawing moment coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree.
$C_{l\delta_r}$	DCBLDR	rolling moment coefficient derivative with respect to rudder deflection. Algebraic difference of the rolling moment coefficient of two runs divided by the algebraic difference of the rudder deflection angle of the runs; body axis system; per degree.
$C_{m\delta_e}$	DCLMDE	pitching moment coefficient derivative with respect to elevon deflection. Algebraic difference of the pitching moment coefficient of two runs divided by the algebraic difference of the elevon deflection angles of the runs; per degree.
$C_{L\delta_e}$	DCL/DE	lift coefficient derivative with respect to elevon deflection. Algebraic difference of the lift force coefficients of two runs divided by the algebraic difference of the elevon deflection angles of the runs; per degree.
XCP/l	XCP/L	longitudinal center of pressure location; fraction of body length.
$\delta_e$	ELEVON	elevon, surface deflection angle, positive deflection, trailing edge down; degrees.
$\delta_a$	AILRON	aileron, total aileron deflection angle, degrees, (left aileron - right aileron)/2.
$\delta_c$	CANARD	canard, surface deflection angle, positive deflection, trailing edge down; degrees.
$\delta_{sb}$	SPDBRK	speedbrake, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{rr} = (\delta_{rL} + \delta_{rR})/2$ , positive deflection; degrees.

# NOMENCLATURE (CONCLUDED)

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$\delta_{BF}$	BDFLAP	body flap, surface deflection angle, positive deflection, trailing edge down; degrees.
$\delta_r$	RUDDER	rudder, surface deflection angle, positive deflection trailing edge to the left; degrees.
$\Delta\delta_e$	DELELE	algebraic difference of elevon deflection angle between two runs; degree.
$\delta_{e_{max}}$	MAXELE	maximum elevon deflection angle between two runs; degree.
$\Delta\delta_a$	DELAILE	algebraic difference of aileron deflection angle between two runs; degree.
$\delta_{a_{max}}$	MAXAIL	maximum aileron deflection angle between two runs; degrees.
$\Delta\delta_r$	DELRUD	algebraic difference of rudder deflection angle between two runs; degree.
$\delta_{r_{max}}$	MAXRUD	maximum rudder deflection angle between two runs; degrees.
$\Delta\beta$	DBETA	algebraic difference of the angle of sideslip between two runs; degrees.
$\delta_v$	VTLINC	vertical tail inclination angle, positive when trailing edge left; degrees.

## CONFIGURATIONS INVESTIGATED

The model for this test was an 0.0405 scale - 139B representation of the Rockwell International PRR Space Shuttle Orbiter. The basic model is of the bended wing-body design utilizing a double delta wing and constructed around an aluminum balance block with a 4.250 inch diameter balance cavity. All large model components, i.e., body mold lines, wings etc., were constructed either of aluminum and/or wood and attached directly to the model balance block. The other components, i.e., speed brakes, canards, etc., were constructed of aluminum, wood, and/or template steel and attached to the fuselage.

The available model configuration variables were; vertical tail; vertical tail rudder and/or rudder flare capability; full span split elevons with unswept hingeline; removable canopy, body flap, orbital maneuvering system, and wings; and various speed brake and canard combinations.

The balance support system utilized for this test was the balance block sleeved for fit of the 2.5 inch MK IX internal balance and used with the NAAL sting support system.

The various model components tested are listed below. Table II delineates the configurations these components were tested in while Table III lists the pertinent dimensions of each component.

<u>COMPONENT SYMBOL</u>	<u>DESCRIPTION</u>
B <sub>17</sub>	-139 Baseline fuselage
B <sub>19</sub>	-139B Baseline fuselage
B <sub>21</sub>	Same as B <sub>19</sub> except with an up cambered nose
C <sub>7</sub>	-139B Baseline canopy
E <sub>23</sub>	-139B Baseline elevon used on wing W <sub>107</sub>
F <sub>5</sub>	-139 Baseline body flap
F <sub>6</sub>	Same as F <sub>5</sub> but with an extended chord on top surface
H <sub>2</sub> thru H <sub>7</sub> ,	Body mounted canards
H <sub>14</sub> , and H <sub>15</sub>	

# CONFIGURATIONS INVESTIGATED (Concluded)

<u>COMPONENT SYMBOL</u>	<u>DESCRIPTION</u>
H <sub>8</sub> thru H <sub>11</sub>	Glove mounted canards
H <sub>12</sub> , H <sub>13</sub> , H <sub>16</sub> thru	Glove apex mounted canards
H <sub>18</sub> and H <sub>24</sub>	
H <sub>23</sub> , H <sub>25</sub>	Nose mounted canards
M <sub>4</sub>	-139B Baseline orbital maneuvering system (OMS)
R <sub>6</sub>	-139B Baseline rudder used on vertical tail V <sub>7</sub>
V <sub>7</sub>	-139B Baseline all movable centerline vertical tail
W <sub>107</sub>	-139B Baseline double delta wing, S <sub>w</sub> = 2690 ft <sup>2</sup>
W <sub>112</sub>	Same as W <sub>107</sub> except upper surface is straight line modified with clay
Z <sub>2</sub>	Top-wing brake
Z <sub>3</sub>	Main-gear door brake
Z <sub>4</sub>	OMS-mounted brake
Z <sub>5</sub>	Body-flare mounted brake
X <sub>9</sub>	Grit strips

## TEST FACILITY DESCRIPTION

The Rockwell International (NAAL) Low Speed Wind Tunnel is a continuous flow, closed circuit facility with a 7.75 x 11 foot test section which is vented to atmospheric pressure. It is capable of speeds up to 200 miles per hour. Power is supplied by a 1250 horsepower nacelle-mounted synchronous motor driving a 19 foot diameter, 7-bladed laminated birch propeller. Air-speed is controlled by varying the degree of coupling between the motor and propeller by means of an electromagnetic clutch. A damping screen and honeycomb section in the settling chamber upstream of the contraction cone (7.53 to 1) minimizes turbulence in the test section.

Tests may be conducted using a variety of model mounting systems. These include single and double struts, sting support, reflection plane, cable suspension, and two-dimensional walls. Sting and strut support systems include both pitch and yaw positioning capability.

The dynamic pressure in the test section is calibrated in terms of the difference in static pressure as measured at the 27-foot and the 12-foot sections of the contraction cone upstream of the test section. These two static pressures are sensed by piezometer rings in the walls of the tunnel, and are connected to a pair of bellows in the "Q-balance", where the difference between the pressures is balanced against an adjustable weight, which is set for the desired tunnel velocity. Any unbalance is detected and indicated by a meter on the control console as a feedback to the tunnel operator, who manually controls the tunnel velocity. The meter signal, along with the output of pressure transducers connected

#### TEST FACILITY - Continued.

to the 12-foot and 27-foot piezometer rings, is also recorded by the data system described below.

The planar balance, which is located beneath the floor of the test section, is used for measuring aerodynamic forces on the model. It consists of four flexure-mounted linkage systems which isolate the forces acting on a model into three mutually-perpendicular forces, each having a moment acting about its axis. The small movement of the model due to each force and moment is mechanically amplified by a system of levers, detected optically, and counteracted by an electrodynamic coil and magnet assembly. The coil current required to balance each aerodynamic force provides the output signals. The entire planar balance, and therefore the force axis system, rotates in yaw with the model, resulting in measurements in the stability-axis system.

The electrical output of all instrumentation is recorded on magnetic tape by the ASTRODATA Data Acquisition System. This system can accept up to 50 channels of analog voltage input data, which is amplified and filtered as required. The 50 channels can be scanned at either of two rates; approximately 67 or 134 complete scans per second. Each signal is converted to a 14-bit digital word (including sign) and recorded on 7-track IBM-compatible tape. The tape is physically carried to the computer room on the mezzanine of the wind tunnel building, where the data are reduced to the desired form by a Data General Nova 820 computer.



# DATA REDUCTION

The aerodynamic force and moment data presented were measured by the Task Corporation 2.5 inch MK IX strain gage balance. The data have been corrected for model base and balance chamber pressure effects, model blockage influence on tunnel dynamic pressure, wall interference effects, sting and balance deflections, and model weight tare.

The corrections to axial force were accomplished in the following manner:

$$C_{A_T} = C_A - C_{A_{BC}} - C_{A_D} - C_{A_T}$$

where:

$$C_{A_{BC}} = - \left( \frac{P_{BC} - P_s}{q} \right) \left( \frac{A_{BC}}{S} \right)$$

and:

$$C_{A_D} = - \left( \frac{P_b - P_s}{q} \right) \left( \frac{A_b}{S} \right) \quad P_b = 1/5 (P_{b1} + \dots + P_{b5})$$

$$C_{A_T} = \text{Model axial force weight tare}$$

The following reference dimensions were used for reducing the aerodynamic data to coefficient form:

Symbol	Definition	Value	
		Full Scale	Model Scale
$A_b$	Area of base, ft <sup>2</sup> (with OMS pods)	-	0.570
	(without OMS pods)		0.428
$A_{BC}$	Area of balance cavity, ft <sup>2</sup>	-	0.0985
$S$	Area of wing, ft <sup>2</sup>	2690.00	4.412
XMRP	Center of gravity, fus. sta., in.	1076.47	43.597
	Center of gravity, aft of nose, in.	838.47	33.958
ZMRP	Center of gravity, waterplane, in.	400	16.200
$L_b$	Length orbiter body, in.	1290.30	52.257
$\bar{c}(LREF)$	Wing MAC, in.	474.81	19.230
$\bar{b}(BREF)$	Wing span, in.	936.68	37.935



TABLE II

[illegible]

DATA SET/RUN NUMBER COLLATION SUMMARY

TEST: OR 21A (NAA 705)

DATE:

DATA SET IDENTIFIER		CONFIGURATION	SCHD.		PARAMETERS/VALUES								NO. OF RUNS	MACH NUMBERS	
			$\alpha$	$\beta$	$S_E$	$S_A$	$S_V$	$S_R$	$S_{BF}$	$S_{SB}$	$S_H$	0.165		0.260	
RDP019		B <sub>1</sub> C <sub>7</sub> M <sub>4</sub> F <sub>5</sub> M <sub>101</sub> E <sub>25</sub> V <sub>1</sub> K <sub>1</sub> X <sub>4</sub>	10	B	0	0	0	-15	-18	0	T	1	19		
20			15										20		
21			20										21		
22			A	0			0			25			22		
23			0	B									23		
24			10										24		
25			15										25		
26			20										26		
27			0				-7.5						27		
28			10										28		
29			15										29		
30			20										30		
31			0				-15						31		
32			10										32		
33			15										33		
34			20										34		
35			A	0			0			85			35		
36			0	B									36		

17576

100F10LM10N10AF10YM10BL10Y10CPL10AB10MACH10ALPAA

$\alpha$  OR  $\beta$  SCHEDULES

$\alpha_1 = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

$\beta_1 = -10, -5, 0, 5, 10$

COEFFICIENT:

10VAR (1)10VAR (2)10V

TEST: QAZ1A (NAHL705)

DATE:

DATA SET/RUN NUMBER COLLATION SUMMARY

TEST RUN NUMBERS

DATA SET IDENTIFIER	CONFIGURATION	SCHD.										PARAMETERS/VALUES										NO. OF RUNS	MACH NUMBERS	
		α	β	SE	SA	SV	SR	SBF	SSR	SH														
KDPO37	B <sub>17</sub> G <sub>1</sub> M <sub>1</sub> F <sub>1</sub> W <sub>1</sub> F <sub>1</sub> 334 <sub>1</sub> E <sub>1</sub> X <sub>1</sub>	10	B	0	0	0	0	-18	XS	T							1	37						
38		15																38						
39		20																39						
40		0							-7.5									40						
41		10																41						
42		15																42						
43		20																43						
44		0							-15									44						
45		10																45						
46		15																46						
47		20																47						
48		A	0						0	SS								48						
49		0	B															49						
50		10																50						
51		15																51						
52		20																52						
53		0							-7.5									53						
54		10								0								54						

1

7

13

19

25

31

37

43

49

55

61

67

75

76

CL

KDF

CLM

CM

CAF

KYN

KBL

ICR

KCP

ICAB

WACH

ALPHA

α OR β

SCHEDULES

COEFFICIENTS

IOVAR (1)

IOVAR (2)

NDV

TABLE II. (CONTINUED)

TEST: OR 21A (NAAL 70E)										DATE:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
DATA SET/RUN NUMBER COLLATION SUMMARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES						NO. OF RUNS	MACH NUMBERS		TEST RUN NUMBERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		$\alpha$	$\beta$	$S_E$	$S_A$	$S_V$	$S_R$	$S_{BF}$	$S_{SH}$		0.65	0.260	55	61	67	75	76																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
RDH055	B <sub>1</sub> C <sub>1</sub> M <sub>4</sub> F <sub>5</sub> M <sub>10</sub> T E <sub>23</sub> V <sub>4</sub> R <sub>8</sub> X <sub>9</sub>	15	B	0	0	0	-1.5	7.5	—	1	0.65	0.260																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</

TABLE II. (CONTINUED)

TEST: OAZIN (INITIAL 7001)										DATE:									
DATA SET/RUN NUMBER COLLATION SUMMARY																			
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES								NO. OF RUNS	MACH NUMBERS		TEST RUN NUMBERS				
		$\alpha$	$\beta$	$S_E$	$S_A$	$S_V$	$S_N$	$S_{BF}$	$S_{SE}$	$S_H$			0.165	0.260					
74	$B_{17}C_1$	0	B	0	0	0	0	-18	55	0		1		72					
75		10												74					
76		15												75					
77	$F_{3N}F_{23}V_4E_4X_9$	20												76					
78		0												77					
79		10												78					
80		15												79					
81		20												80					
82	$F_{3N}F_{23}E_{23}X_9$	A	0											81					
83		0	B											82					
84		10												83					
85		15												84					
86		20												85					
87	$M_9$	A	0											86					
88		0	B											87					
89		10												88					
90		15												89					
														90					
1		7																	
		13																	
		19																	
		25																	
		31																	
		37																	
		43																	
		49																	
		55																	
		61																	
		67																	
		75																	
		76																	
SCHEDULES										COEFFICIENTS									
$\alpha$ OR $\beta$										IDVAR (1) IDVAR (2) NCV									
CA...CDE...CLM...CN...CAF...CYN...CBL...CY...KCP/L...CAB...MACH...VALPHA																			
$S_A = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$																			
$S_B = -10, -5, 0, 5, 10$																			

TABLE II. (CONTINUED)

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

DATA SET/RUN NUMBER COLLATION SUMMARY

TEST : OA-1A (NFAH 7.25)

DATA SET IDENTIFIER	CONFIGURATION	SCHD.	PARAMETERS/VALUES	NO. OF RUNS	MACH NUMBERS												



**TABLE II. (CONTINUED)**

[illegible]

TABLE II. (CONTINUED)

TEST:0421A (NRAHL 705)

DATE:

DATA SET / RUN NUMBER COLLATION SUMMARY

TEST RUN NUMBERS

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES								NO. OF RUNS	MACH NUMBERS		
		$\alpha$	$\beta$	$\alpha$	$\beta$	$\gamma$	$\delta$	$\epsilon$	$\zeta$	$\eta$	$\theta$		$\phi$	$\psi$	
1001	B1C1H1E1M1O1E1S1V1R1X1	A	0	5	0	0	0	0	0	0	0	0	1	0.165	0.264
28														127	
29														128	
30				10										129	
31														130	
32														131	
33														132	
34	H3													133	
35														134	
36	H4													135	
37														136	
38														137	
39	H5													138	
40														139	
41	H6													140	
42	H12			0										141	
43	H13													142	
44	H8													143	
														144	

7131925313743495561677576

04050607080910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576

04050607080910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576

OR  $\beta$

SCHEDULES

COEFFICIENTS

$\alpha_1 = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$   
 $\beta_8 = -10, -20, -30, -40, -50, -60, -70, -80, -90, -100$

04050607080910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576

04050607080910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576

TABLE II. (CONTINUED)

TEST: OAZIA (NAHL 705)										DATA SET/RUN NUMBER COLLATION SUMMARY										DATE:									
DATA SET IDENTIFIER		CONFIGURATION		SCHD.		PARAMETERS/VALUES								NO. OF RUNS		MACH NUMBERS		TEST RUN NUMBERS											
				$\alpha$ $\beta$		SE	SA	SV	SR	SEB	SB	SH																	
7.1A 143		B7C7 H6 M4 E5 H107 E2 V4 R4 Y		H 0		0	0	0	0	0	0	0			1		0.165 0.260												
46		H16															142												
47		H18															146												
48		H17															147												
49																	148												
50		H17										10					150												
51		H18															151												
52		H18															152												
53		H18															153												
54		H13															154												
55		H12															155												
56		H16															156												
57		H10															157												
58		H11															158												
59		H11															159												
60		H16															160												
61		H16															161												
62		H17															162												
7																													
13																													
19																													
25																													
31																													
37																													
43																													
49																													
55																													
61																													
67																													
75																													
76																													
CLM		CN		CAF		CYN		IOBL		CY		KCP		CAB		MACH		ALPHA											
COEFFICIENTS																													
SCHEDULES																													
$\alpha$ OR $\beta$																													
SCHEDULES																													

DATA SET/RUN NUMBER COLLATION SUMMARY

TEST: 04214 (N4AL 705)

DATA SET IDENTIFIER		CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	MACH NUMBERS	
			A	B	PE	SA	PV	PR	SR	FE	TH	C165	C265				
RDP163		B13, H1, M6, E4, 7, E3, V8, X8	A	0	0	0	0	0	0	-15	-5	-14	1	163			
64		H1												164			
65		H2												165			
66		H10												166			
67		H19												167			
68		H10												168			
69		H6												169			
70		H12												170			
71		H7												171			
72					0					0	-			172			
73					5									173			
74					-5									174			
TEST RUN NUMBERS																	
75 76																	
67																	
61																	
55																	
49																	
43																	
37																	
31																	
25																	
19																	
13																	
7																	
CH...CDF...CLM...CM...CAF...CYN...CBL...CY...XCP/L...GAB...MACH...ALPHA																	
10VAR (1) 10VAR (2) 10DV																	
α OR β SCHEDULES																	
α1 = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24																	
β1 = -10, -5, 0, 5, 10																	

TABLE II. (CONTINUED)

TEST : OAZIB(NANL 705)										DATE :										DATA SET/RUN NUMBER COLLATION SUMMARY										DATE :									
DATA SET IDENTIFIER		CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS		MACH NUMBERS																						
			$\alpha$	$\beta$	$\delta E$	$\delta A$	$\delta V$	$\delta R$	$\delta BF$	$\delta SB$	$\delta H$																												
RDP175	B19C7M4F5W107F23V1R1A		A	O	O	O	O	O	-18	O	-			0.165	0.260																								
76			↓	5											175																								
77			O	B											176																								
78			5												177																								
79			10												178																								
80			15												179																								
81			20	↓											180																								
82			A	O											181																								
83				5						↓					182																								
84				O						25					183																								
85			↓	5											184																								
86			O	B											185																								
87			5												186																								
88			10												187																								
89			15												188																								
90			20	↓											189																								
91		→ W112 →	A	O						↓			191		190																								
92			↓	↓					↑	O	↓		192																										

TEST : OAZIB(NANL 705) DATE : DATA SET/RUN NUMBER COLLATION SUMMARY DATE :

TEST : OAZIB(NANL 705) DATE : DATA SET/RUN NUMBER COLLATION SUMMARY DATE :

1 7 13 19 25 31 37 43 49 55 61 67 75 76

C4 CDF CLM CM CAF CYN CBL CY XCP/L CAR MACH ALPHA

ICVAR (1) ICVAR (2) NDV

$\alpha$  OR  $\beta$

SCHEDULES

COEFFICIENTS

$\alpha_A = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

$\alpha_B = -10, -5, 0, 5, 10$

TABLE II. (CONTINUED)

TEST: OAZIB (NANAL 705)															DATE: _____																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
DATA SET/RUN NUMBER COLLATION SUMMARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES										NO. OF RUNS	MACH NUMBERS		TEST RUN NUMBERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		$\alpha$	$\beta$	$\delta E$	$\delta A$	$\delta V$	$\delta R$	$\delta EF$	$\delta SB$	$\delta H$																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

TABLE II. (CONTINUED)

TEST : OA 21B (NRA 705)										DATE :																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
DATA SET/RUN NUMBER COLLATION SUMMARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
DATA SET IDENTIFIER	CC CONFIGURATION	SCHD.		PARAMETERS/VALUES								NO. OF RUNS	MACH NUMBERS		TEST RUN NUMBERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		$\alpha$	$\beta$	$\delta F$	$\delta A$	$\delta V$	$\delta R$	$\delta \theta$	$\delta H$		0.165		0.240																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

TEST:CAZIB (NAAL 705

## DATA SET/RUN NUMBER COLLATION SUMMARY

**DATE :**

DATA SET IDENTIFIER		CONFIGURATION	SCHD.		PARAMETERS/VALUES								NO. OF RUNS	MACH NUMBERS	
			$\alpha$	$\beta$	$\delta E$	$\delta A$	$\delta V$	$\delta R$	$\delta F$	$\delta B$	$\delta H$	0.165		0.260	
RDP229	30	B <sub>14</sub> C <sub>7</sub> H <sub>23</sub> M <sub>4</sub> F <sub>5</sub> N <sub>10</sub> F <sub>23</sub> V <sub>8</sub>	A	0	-5	0	0	0	0	0	0	0	229	230	
	31				S								231		
	32	Z <sub>2</sub>			0								232		
	33	Z <sub>23</sub>											233		
	34	Z <sub>3</sub>											234		
	35	Z <sub>235</sub>											235		
	36	Z <sub>5</sub>											236		
	37	Z <sub>4</sub>											237		
	38	Z <sub>423</sub>											238		
	39	Z <sub>4</sub>											239		
	40	E <sub>3</sub>			S								240		
	41	Z <sub>2</sub>											241		
	42	Z <sub>5</sub>											242		
	43												243		
	44	M <sub>4</sub> F <sub>6</sub> M <sub>10</sub> F <sub>23</sub> V <sub>8</sub>			0								244		
	45												245		
	46												246		

TEST RUN NUMBERS

676155494337312519137

MACH ALPHA

IDVAR (1) IDV (2)

75.76

DATA SET FROM NO.

COEFFICIENTS

$\alpha_A = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24$

$\beta_B = -10, -8, -6, -4, -2, 0, 2, 4, 6, 8, 10$

a OR b

SCHEDULES



TABLE II. (CONTINUED)

TEST: OA12B (NAPL 705)															
DATA SET/RUN NUMBER COLLATION SUMMARY															
DATE: _____															
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES								NO. OF RUNS	MACH NUMBERS		
		$\alpha$	$\beta$	$\delta F$	$\delta A$	$\delta Y$	$\delta R$	$\delta B$	$\delta S$	$\delta H$	0.165		0.260		
RDP247	B <sub>1</sub> C <sub>7</sub> M <sub>4</sub> F <sub>1</sub> W <sub>10</sub> E <sub>2</sub> A <sub>1</sub> R <sub>8</sub>	A	O	O	O	O	O	O	O	O	15	25	-	247	
40	M <sub>4</sub> M <sub>4</sub> F <sub>1</sub> —IX <sub>6</sub>										-18	55	O	248	
49	—IX <sub>6</sub>													249	
50	M <sub>2.5</sub> M <sub>4</sub>													250	
51	—IX <sub>6</sub>	C	B								25	O		251	
52	—IX <sub>6</sub>	5												252	
53	—IX <sub>6</sub>	10												253	
54	—IX <sub>6</sub>	15												254	
55	—IX <sub>6</sub>	20												255	
56	B <sub>2</sub> C <sub>7</sub> M <sub>4</sub>	A	O											256	
57	—IX <sub>6</sub>	C	B											257	
58	—IX <sub>6</sub>	5												258	
59	—IX <sub>6</sub>	10												259	
60	—IX <sub>6</sub>	15												260	
61	—IX <sub>6</sub>	20												261	
62	M <sub>2.3</sub>	A	O										O	262	
63	—IX <sub>6</sub>	O	B											263	
64	—IX <sub>6</sub>	5												264	
TEST RUN NUMBERS															
1	7	13	19	25	31	37	43	49	55	61	67	75	76		
CN	CDF	CLM	EN	CAF	SYN	SB	SY	XP	L	GAB	MACH	ALPHA			
COEFFICIENTS															
SCHEDULES															
$\alpha$ or $\beta$ SCHEDULES															
O-A = -4, -2, 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24															
O-B = -10, -5, 0, 5, 10															

TABLE II. (CONCLUDED)

[illegible]

TABLE III.  
MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B17

GENERAL DESCRIPTION : Fuselage, Configuration 3, Lightweight orbiter

\_\_\_\_\_

\_\_\_\_\_

Model Scale = .0405

\_\_\_\_\_

DRAWING NUMBER : VL70-000139

\_\_\_\_\_

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length - IN.	<u>1290.3</u>	<u>52.25715</u>
Max Width - IN.	<u>267.6</u>	<u>10.83780</u>
Max Depth - IN.	<u>244.5</u>	<u>9.90225</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - FT <sup>2</sup>	<u>                    </u>	<u>                    </u>
Max. Cross-Sectional	<u>386.67</u>	<u>0.63423</u>
Planform	<u>                    </u>	<u>                    </u>
Wetted	<u>                    </u>	<u>                    </u>
Base	<u>                    </u>	<u>                    </u>

TABLE III. (Continued)

## MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - 19GENERAL DESCRIPTION : Fuselage, Configuration 3, per Rockwell Lines  
VL70-000139B.

NOTE: Identical to B17 except forebody.

Model Scale = .0405

DRAWING NUMBER : VL70-000139B

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length - IN.	<u>1290.3</u>	<u>52.25715</u>
Max Width - IN.	<u>267.6</u>	<u>10.83780</u>
Max Depth - IN.	<u>244.5</u>	<u>9.90225</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - FT <sup>2</sup>	<u>          </u>	<u>          </u>
Max. Cross-Sectional	<u>386.67</u>	<u>0.63423</u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

TABLE III. (CONTINUED)

MODEL COMPONENT: BODY - B21GENERAL DESCRIPTION: Fuselage, Configuration 3, Rockwell Lines per"Alternate cambered forebody for VL70-000139B"NOTE: B21 identical to B19, except forebody.Model Scale = .0405DRAWING NUMBER: Altn. cambered forebody  
for VL70-000139B

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - IN.	<u>1290.3</u>	<u>52.25715</u>
Max. Width - IN.	<u>267.6</u>	<u>10.83780</u>
Max. Depth - IN.	<u>244.5</u>	<u>9.90225</u>
Fineness Ratio	<u>4.82175</u>	<u>4.82175</u>
Area - FT <sup>2</sup>		
Max. Cross-Sectional	<u>386.67</u>	<u>0.63423</u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Canopy - C7

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

Model Scale = .0405

DRAWING NUMBER VL70-000139

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ( $X_0 = 433$ to $X_0 = 670$ ) - in. FS	<u>237</u>	<u>9.59850</u>
Max Width	<u>                    </u>	<u>                    </u>
Max Depth ( $Z_0 =$ to $Z_0 = 501$ ) - in FS	<u>                    </u>	<u>                    </u>
Fineness Ratio	<u>                    </u>	<u>                    </u>
Area		
Max Cross-Sectional	<u>                    </u>	<u>                    </u>
Planform	<u>                    </u>	<u>                    </u>
Wetted	<u>                    </u>	<u>                    </u>
Base	<u>                    </u>	<u>                    </u>

TABLE III. (CONTINUED)

MODEL COMPONENT: ELEVON - E23GENERAL DESCRIPTION: Configuration 3 per W107 Rockwell LinesVL70-000139B, data for (1) of (2) sidesModel Scale = .0405DRAWING NUMBER: VL70-000139B

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - FT <sup>2</sup>	<u>205.52</u>	<u>0.33710</u>
Span (equivalent) - IN.	<u>353.34</u>	<u>14.31027</u>
Inb'd equivalent chord	<u>114.78</u>	<u>4.64859</u>
Outb'd equivalent chord	<u>55.00</u>	<u>2.22750</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>.208</u>	<u>.208</u>
At Outb'd equiv. chord	<u>.400</u>	<u>.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Tailing Edge	<u>-10.24</u>	<u>-10.24</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hinge line)- FT <sup>3</sup>	<u>1548.07</u>	<u>0.10284</u>
Product of Area Moment		

TABLE III. (CONTINUED)

MODEL COMPONENT: F5 Body FlapGENERAL DESCRIPTION: 3 Configuration per Rockwell Lines VL70-000139Scale Model = .0405

DRAWING NUMBER

VL70-000139DIMENSION:FULL SCALEMODEL SCALE

Length - in

84.703.43035

Max Width - in

267.610.83180

Max Depth

Fineness Ratio

Area - Ft<sup>2</sup>

Max Cross-Sectional

Planform

Wetted

Base

140.000.2296338.09580.06249



TABLE III. (CONTINUED)

MODEL COMPONENT: Body Flap - F<sub>6</sub>GENERAL DESCRIPTION: Body Flap for configuration 3,  
per lines VL70-000139BNOTE: Flap adjustable from -32.5° to +13.75°MODEL SCALE = .0405

DRAWING NUMBER \_\_\_\_\_

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length $\sim$ in.	<u>107.0</u>	<u>4.33350</u>
Max Width $\sim$ in.	<u>267.6</u>	<u>10.83780</u>
Max Depth	<u>          </u>	<u>          </u>
Fineness Ratio	<u>          </u>	<u>          </u>
Area $\sim$ Ft <sup>2</sup>	<u>          </u>	<u>          </u>
Max Cross-Sectional	<u>          </u>	<u>          </u>
Planform	<u>174.55</u>	<u>0.28630</u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>38.0958</u>	<u>0.06249</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H2GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines VL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>13</u>	<u>0.021</u>
Span ~in.	<u>43.878</u>	<u>1.777</u>
Aspect Ratio	<u>2.06</u>	<u>2.06</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0, 10, 20</u>	<u>0, 10, 20</u>
Sweep Back Angle ~deg.	<u>60</u>	<u>60</u>
Chords ~in.		
Root	<u>85.326</u>	<u>3.456</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>56.884</u>	<u>2.304</u>
Apex Location ~in.		
X <sub>0</sub>	<u>470</u>	<u>19.035</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>534</u>	<u>21.627</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H3GENERAL DESCRIPTION: Trimmer used on modified configuration 3  
vehicle (Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>26</u>	<u>0.042</u>
Span ~in.	<u>62.054</u>	<u>2.513</u>
Aspect Ratio	<u>2.06</u>	<u>2.06</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0, 10, 20</u>	<u>0, 10, 20</u>
Sweep Back angle ~deg.	<u>60</u>	<u>60</u>
Chords ~in.		
Root	<u>120.670</u>	<u>4.887</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>80.447</u>	<u>3.258</u>
Apex Location ~in.		
X <sub>0</sub>	<u>432</u>	<u>17.476</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>534</u>	<u>21.627</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H4GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>13</u>	<u>0.021</u>
Span ~in.	<u>46.058</u>	<u>1.865</u>
Aspect Ratio	<u>2.27</u>	<u>2.27</u>
Taper Ratio	<u>0.20</u>	<u>0.20</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0, 10, 20</u>	<u>0, 10, 20</u>
Sweep Back Angle ~deg.	<u>45</u>	<u>45</u>
Chords ~in.		
Root	<u>67.734</u>	<u>2.743</u>
Tip	<u>13.555</u>	<u>0.549</u>
MAC	<u>46.661</u>	<u>1.890</u>
Apex Location ~in.		
X <sub>0</sub>	<u>487</u>	<u>19.723</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>534</u>	<u>21.627</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 5GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>26</u>	<u>0.043</u>
Span ~in.	<u>65.142</u>	<u>2.638</u>
Aspect Ratio	<u>2.27</u>	<u>2.27</u>
Taper Ratio	<u>0.20</u>	<u>0.20</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0, 10, 20</u>	<u>0, 10, 20</u>
Sweep Back Angle ~deg.	<u>45</u>	<u>45</u>
Chords ~in.		
Root	<u>95.788</u>	<u>3.879</u>
Tip	<u>19.160</u>	<u>0.776</u>
MAC	<u>65.987</u>	<u>2.672</u>
Apex Location ~in.		
X <sub>0</sub>	<u>466</u>	<u>18.873</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>534</u>	<u>21.627</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H6GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-0001398), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>25</u>	<u>0.041</u>
Span ~in.	<u>65.278</u>	<u>2.649</u>
Aspect Ratio	<u>2.37</u>	<u>2.37</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0</u>	<u>0</u>
Sweep Back Angle ~deg.	<u>50</u>	<u>50</u>
Chords ~in.		
Root	<u>101.554</u>	<u>4.113</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>67.703</u>	<u>2.742</u>
Apex Location ~in.		
X <sub>0</sub>	<u>463</u>	<u>18.752</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H7GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-000139B), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>50</u>	<u>0.082</u>
Span ~in.	<u>92.317</u>	<u>3.739</u>
Aspect Ratio	<u>2.37</u>	<u>2.37</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0</u>	<u>0</u>
Sweep Back Angle ~deg.	<u>50</u>	<u>50</u>
Chords ~in.		
Root	<u>143.619</u>	<u>5.816</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>95.746</u>	<u>3.878</u>
Apex Location ~in.		
X <sub>0</sub>	<u>430</u>	<u>17.415</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H8GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-000139B), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>13</u>	<u>0.021</u>
Span ~in.	<u>43.210</u>	<u>1.750</u>
Aspect Ratio	<u>2.25</u>	<u>2.25</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>49</u>	<u>49</u>
Chords ~in.		
Root	<u>84.025</u>	<u>3.403</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>56.017</u>	<u>2.269</u>
Apex Location ~in.		
X <sub>0</sub>	<u>620</u>	<u>25.110</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>307.5</u>	<u>12.454</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>670</u>	<u>27.135</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>307.5</u>	<u>12.454</u>



TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H9GENERAL DESCRIPTION: Trimmers used on modified configuration 3 vehicle  
(Rockwell Lines UL7C-0001398), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>26</u>	<u>0.043</u>
Span ~in.	<u>61.778</u>	<u>2.502</u>
Aspect Ratio	<u>2.04</u>	<u>2.04</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>49</u>	<u>49</u>
Chords ~in.		
Root	<u>120.123</u>	<u>4.845</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>80.082</u>	<u>3.243</u>
Apex Location ~in.		
X <sub>0</sub>	<u>600</u>	<u>24.300</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>308.5</u>	<u>12.494</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>670</u>	<u>27.135</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>308.5</u>	<u>12.494</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 10GENERAL DESCRIPTION: Trimmer used on modified configuration 3  
vehicle (Rockwell Lines UL70-000139B), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>6.5</u>	<u>0.011</u>
Span ~in.	<u>21.456</u>	<u>0.869</u>
Aspect Ratio	<u>0.984</u>	<u>0.984</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>64</u>	<u>64</u>
Chords ~in.		
Root	<u>87.248</u>	<u>3.533</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>58.165</u>	<u>2.356</u>
Apex Location ~in.		
X <sub>0</sub>	<u>620</u>	<u>25.110</u>
Y <sub>0</sub>	<u>      </u>	<u>      </u>
Z <sub>0</sub>	<u>307.5</u>	<u>12.454</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>670</u>	<u>27.135</u>
Y <sub>0</sub>	<u>      </u>	<u>      </u>
Z <sub>0</sub>	<u>307.5</u>	<u>12.454</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H11GENERAL DESCRIPTION: Trimmer used on modified configuration 3  
vehicle (Rockwell Lines U270-000139B), mid-glove mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft<sup>2</sup>130.021

Span ~in.

30.5411.237

Aspect Ratio

0.9960.996

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

6464

Chords ~in.

Root

122.5914.965

Tip

00

MAC

81.7273.309

Apex location ~in.

X<sub>0</sub>61024.705Y<sub>0</sub>00Z<sub>0</sub>308.012.474

Area Centroid Location ~in.

X<sub>0</sub>67027.135Y<sub>0</sub>00Z<sub>0</sub>308.012.474

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H12GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-0001398), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>50</u>	<u>0.082</u>
Span ~in.	<u>69.464</u>	<u>2.813</u>
Aspect Ratio	<u>1.34</u>	<u>1.34</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>59</u>	<u>59</u>
Chords ~in.		
Root	<u>203.111</u>	<u>8.226</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>135.407</u>	<u>5.484</u>
Apex Location ~in.		
X <sub>0</sub>	<u>500</u>	<u>20.250</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H 13GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines VL70-0001398), glove-apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>85</u>	<u>0.139</u>
Span ~in.	<u>113.572</u>	<u>4.599</u>
Aspect Ratio	<u>2.11</u>	<u>2.11</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>45</u>	<u>45</u>
Chords ~in.		
Root	<u>203.111</u>	<u>8.226</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>135.407</u>	<u>5.489</u>
Apex Location ~in.		
X <sub>0</sub>	<u>500</u>	<u>20.250</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H14GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines U170-C001398), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>25</u>	<u>0.041</u>
Span ~in.	<u>65.278</u>	<u>2.644</u>
Aspect Ratio	<u>2.37</u>	<u>2.37</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>45</u>	<u>45</u>
Incidence Angle ~deg.	<u>0</u>	<u>0</u>
Sweep Back Angle ~deg.	<u>50</u>	<u>50</u>
Chords ~in.		
Root	<u>101.554</u>	<u>4.113</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>67.703</u>	<u>2.742</u>
Apex Location ~in.		
X <sub>0</sub>	<u>463</u>	<u>18.752</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H15GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-0001398), body mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>50</u>	<u>0.082</u>
Span ~in.	<u>92.317</u>	<u>3.739</u>
Aspect Ratio	<u>2.37</u>	<u>2.37</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>45</u>	<u>45</u>
Incidence Angle ~deg.	<u>0</u>	<u>0</u>
Sweep Back Angle ~deg.	<u>50</u>	<u>50</u>
Chords ~in.		
Root	<u>143.619</u>	<u>5.816</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>95.746</u>	<u>3.878</u>
Apex Location ~in.		
X <sub>0</sub>	<u>430</u>	<u>17.415</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H16GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines UL70-000139B)MODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>84.5</u>	<u>0.139</u>
Span ~in.	<u>33.618</u>	<u>3.386</u>
Aspect Ratio	<u>1.15</u>	<u>1.15</u>
Taper Ratio	<u>1.15</u>	<u>1.15</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>62</u>	<u>62</u>
Chords ~in.		
Root	<u>286</u>	<u>11.583</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>190.667</u>	<u>7.722</u>
Apex Location ~in.		
X <sub>0</sub>	<u>500</u>	<u>20.250</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>



TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H17GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines VL70-000139B), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft<sup>2</sup>168.50.276

Span ~in.

159.9296.477

Aspect Ratio

2.112.11

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

4545

Chords ~in.

Root

28611.583

Tip

MAC

190.6677.722

Apex Location ~in.

X<sub>0</sub>50020.250Y<sub>0</sub>Z<sub>0</sub>312.312.648

Area Centroid Location ~in.

X<sub>0</sub>Y<sub>0</sub>Z<sub>0</sub>312.312.648

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H18GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines VL70-0001398), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>54.0</u>	<u>0.088</u>
Span ~in.	<u>54.307</u>	<u>2.199</u>
Aspect Ratio	<u>0.75</u>	<u>0.75</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0.50</u>	<u>0.50</u>
Sweep Back Angle ~deg.	<u>68</u>	<u>68</u>
Chords ~in.		
Root	<u>284.615</u>	<u>11.527</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>189.743</u>	<u>7.684</u>
Apex Location ~in.		
X <sub>0</sub>	<u>500</u>	<u>20.250</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>312.3</u>	<u>12.648</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H23GENERAL DESCRIPTION: Trimmer used on modified configuration 3 Vehicle  
(Rockwell Lines VL70-000139B), nose mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>21</u>	<u>0.034</u>
Span ~in.	<u>65.550</u>	<u>2.655</u>
Aspect Ratio	<u>2.84</u>	<u>2.84</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0</u>	<u>0</u>
Sweep Back Angle ~deg.	<u>31</u>	<u>31</u>
Chords ~in.		
Root	<u>77.295</u>	<u>3.130</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>51.530</u>	<u>2.087</u>
Apex Location ~in.		
X <sub>0</sub>	<u>279</u>	<u>11.299</u>
Y <sub>0</sub>	<u>      </u>	<u>      </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>      </u>	<u>      </u>
Y <sub>0</sub>	<u>      </u>	<u>      </u>
Z <sub>0</sub>	<u>410</u>	<u>16.605</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H24GENERAL DESCRIPTION: Trimmer used on modified configuration 3 vehicle  
(Rockwell Lines VL70-000139B), glove apex mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029DIMENSION:FULL SCALEMODEL SCALEEXPOSED DATA (one side)Area ~ft<sup>2</sup>300.049

Span ~in.

40.4781.639

Aspect Ratio

1.521.52

Taper Ratio

00

Dihedral Angle ~deg.

00

Incidence Angle ~deg.

0.500.50

Sweep Back Angle ~deg.

6868

Chords ~in.

Root

212.1408.592

Tip

00

MAC

141.4275.728

Apex Location ~in.

X<sub>0</sub>50020.250Y<sub>0</sub>Z<sub>0</sub>312.312.648

Area Centroid Location ~in.

X<sub>0</sub>Y<sub>0</sub>Z<sub>0</sub>312.312.648

TABLE III. (CONTINUED)

MODEL COMPONENT: Trimmer - H25GENERAL DESCRIPTION: Trimmer used on modified configuration 3  
vehicle (Rockwell Lines UL70-000139B), nose mountMODEL SCALE = .0405DRAWING NUMBER SS-A00029

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
<u>EXPOSED DATA (one side)</u>		
Area ~ft <sup>2</sup>	<u>21</u>	<u>0.034</u>
Span ~in.	<u>65.55</u>	<u>2.654</u>
Aspect Ratio	<u>2.84</u>	<u>2.84</u>
Taper Ratio	<u>0</u>	<u>0</u>
Dihedral Angle ~deg.	<u>0</u>	<u>0</u>
Incidence Angle ~deg.	<u>0</u>	<u>0</u>
Sweep Back Angle ~deg.	<u>21</u>	<u>21</u>
Chords ~in.		
Root	<u>77.295</u>	<u>3.130</u>
Tip	<u>0</u>	<u>0</u>
MAC	<u>51.530</u>	<u>2.087</u>
Apex Location ~in.		
X <sub>0</sub>	<u>279</u>	<u>11.299</u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>331.0</u>	<u>13.405</u>
Area Centroid Location ~in.		
X <sub>0</sub>	<u>          </u>	<u>          </u>
Y <sub>0</sub>	<u>          </u>	<u>          </u>
Z <sub>0</sub>	<u>331.0</u>	<u>13.405</u>

TABLE III. (CONTINUED)

MODEL COMPONENT: OVS Pod - M<sub>4</sub>

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

NOTE: M<sub>4</sub> identical to M<sub>3</sub>, except intersection to fuselage.

Model Scale = .0405

DRAWING NUMBER

VL70-000139

DIMENSION:

FULL SCALE

MODEL SCALE

Length - IN

346.0

14.01300

Max Width - IN

108.0

4.37400

Max Depth - IN

113.0

4.57650

Fineness Ratio

Area - FT<sup>2</sup>

Max Cross-Sectional

Planform

Wetted

Base

TABLE III. (CONTINUED)

MODEL COMPONENT: RUDDER - R<sub>6</sub>

GENERAL DESCRIPTION: \_\_\_\_\_

NOTE: Identical to R<sub>5</sub> except notch along T.E. of rudderModel Scale = .0405DRAWING NUMBER: 1170-000095

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - FT <sup>2</sup>	<u>106.38</u>	<u>0.17449</u>
Span (equivalent) - IN.	<u>201.0</u>	<u>8.14050</u>
Inb'd equivalent chord	<u>91.585</u>	<u>3.70919</u>
Outb'd equivalent chord	<u>50.833</u>	<u>2.05874</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Tailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hinge line)- FT <sup>3</sup>	<u>526.13</u>	<u>0.03495</u>
Product of Area and Mean Chord		

TABLE III. (CONTINUED)

MODEL COMPONENT: VERTICAL - V7GENERAL DESCRIPTION: Centerline vertical tail, doublewedge airfoil with rounded leading edge.NOTE: Same as V5, but with manipulator housing removed.Model Scale = .0405

DRAWING NUMBER:

VL70-000139

DIMENSIONS:

FULL-SCALEMODEL SCALETOTAL DATA

Area (Theo) Ft <sup>2</sup>	<u>425.92</u>	<u>0.69861</u>
Planform		
Span (Theo) In	<u>315.72</u>	<u>12.78666</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep Back Angles, degrees		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.249</u>	<u>26.249</u>
0.25 Element Line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>10.87425</u>
Tip (Theo) WP	<u>108.47</u>	<u>4.39303</u>
MAC	<u>199.81</u>	<u>8.09230</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>59.27175</u>
W. P. of .25 MAC	<u>635.522</u>	<u>25.73864</u>
B. L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil Section		
Leading Wedge Angle Deg	<u>10.000</u>	<u>10.000</u>
Trailing Wedge Angle Deg	<u>14.920</u>	<u>14.920</u>
Leading Edge Radius	<u>2.0</u>	<u>0.08100</u>
Void Area - Ft <sup>2</sup>	<u>13.17</u>	<u>0.02160</u>
Blanketed Area	<u>0.00</u>	<u>0.00</u>



TABLE III. (CONTINUED)

MODEL COMPONENT: WING-W 107GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VI.70-000139BNOTE: Same as W103. except cuff, airfoil and incidence angle.

Model Scale = .0405

TEST NO.

DWG. NO. VI.70-000139B

DIMENSIONS:

FULL-SCALE

MODEL SCALE

## TOTAL DATA

Area (Theo.)  $\text{Ft}^2$ 

Planform

Span (Theo) In.

Aspect Ratio

Rate of Taper

Taper Ratio

Dihedral Angle, degrees (@ TE of Elevon)

Incidence Angle, degrees

Aerodynamic Twist, degrees

Sweep Back Angles, degrees

Leading Edge

Trailing Edge

0.25 Element Line

## Chords:

Root (Theo) B.P.O.O.

Tip, (Theo) B.P.

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

## EXPOSED DATA

Area (Theo)  $\text{Ft}^2$ 

Span, (Theo) In. BP108

Aspect Ratio

Taper Ratio

## Chords

Root BP108

Tip 1.00  $\frac{b}{2}$ 

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

Airfoil Section (Rockwell Mod NASA)

XXXX-64

Root  $\frac{b}{2}$  =Tip  $\frac{b}{2}$  =

Data for (1) of (2) Sides

Leading Edge Cuff  $\text{Ft}^2$ Planform Area  $\text{Ft}^2$ 

Leading Edge Intersects Fus M. L. @ Sta

Leading Edge Intersects Wing @ Sta

TABLE III. (CONTINUED)

MODEL COMPONENT: WING-W11?GENERAL DESCRIPTION: Configuration 3

NOTE: Same as W107 except upper surface is straight line.

Model Scale = .0405

TEST NO. \_\_\_\_\_

DWG. NO. \_\_\_\_\_

DIMENSIONS:

FULL-SCALE

MODEL SCALE

## TOTAL DATA

Area (Theo.)  $\text{Ft}^2$ 

Planform

Span (Theo) in.

Aspect Ratio

Rate of Taper

Taper Ratio

Dihedral Angle, degrees (@ TE of Elevon)

Incidence Angle, degrees

Aerodynamic Twist, degrees

Sweep Back Angles, degrees

Leading Edge

Trailing Edge

0.25 Element Line

## Chords:

Root (Theo) B.P.O.O.

Tip, (Theo) B.P.

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

## EXPOSED DATA

Area (Theo)  $\text{Ft}^2$ 

Span, (Theo) in. BP108

Aspect Ratio

Taper Ratio

## Chords

Root BP108

Tip 1.00  $\frac{b}{2}$ 

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

Airfoil Section (Rockwell Mod NASA)  
XXXX-64Root  $\frac{b}{2}$  =Tip  $\frac{b}{2}$  =

Data for (1) of (2) Sides

Leading Edge Cuff  $\text{Ft}^2$ 

Planform Area

Leading Edge Intersects Fus M. L. @ Sta

Leading Edge Intersects Wing @ Sta


TABLE III. (CONTINUED)

MODEL COMPONENT: SPEED BRAKE - Z2GENERAL DESCRIPTION: SPEED BRAKE MOUNTED ON WING UPPER SURFACE OF  
MODIFIED VEHICLE 3, VL70-000139BMODEL SCALE = .0405

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area  
 Planform  
 Wetted  
 Span (equivalent)  
 Aspect Ratio  
 Rate of Taper  
 Taper Ratio  
 Dihedral Angle, degrees  
 Incidence Angle, degrees  
 Aerodynamic Twist, degrees  
 Toe-In Angle  
 Cant Angle  
 Sweep Back Angles, degrees  
 Leading Edge  
 Trailing Edge  
 0.25 Element Line  
 Chords:  
 Root (Wing Sta. 0.0)  
 Tip, (equivalent)  
 MAC  
 Fus. Sta. of .25 MAC  
 W.P. of .25 MAC  
 B.L. of .25 MAC  
 Airfoil Section  
 Root  
 Tip

NA  


NA  


EXPOSED DATA

Area  
 Span, (equivalent)/side  
 Aspect Ratio  
 Taper Ratio  
 Chords  
 Root  
 Tip  
 Fus. Sta. of Hingeline

137.6  
 107  
 1.156  
 1.0  
 107  
 107  
 1195

0.2256  
 4.333  
 1.156  
 1.0  
 4.333  
 4.333  
 48.398

TABLE III. (CONTINUED)

MODEL COMPONENT: SPEED BRAKE - Z3

GENERAL DESCRIPTION: FLAT PLATE SPEED BRAKE MOUNTED ON WING  
LOWER SURFACE (AHEAD OF LANDING GEAR) OF MODIFIED CONFIGURA-  
TION 3, VL7C-000139B  
 MODEL SCALE = .0405

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area		
Planform	NA	NA
Wetted		
Span (equivalent)		
Aspect Ratio		
Rate of Taper		
Taper Ratio		
Dihedral Angle, degrees		
Incidence Angle, degrees		
Aerodynamic Twist, degrees		
Toe-In Angle		
Cant Angle		
Sweep Back Angles, degrees		
Leading Edge		
Trailing Edge		
0.25 Element Line		
Chords:		
Root (Wing Sta. 0.0)		
Tip, (equivalent)		
MAC		
Fus. Sta. of .25 MAC		
W.P. of .25 MAC		
B.L. of .25 MAC		
Airfoil Section		
Root		
Tip		

EXPOSED DATA

Area	62.9	0.103
Span, (equivalent) PER SIDE	84	3.402
Aspect Ratio	1.558	1.558
Taper Ratio	1.0	1.0
Chords		
Root	62	2.511
Tip	62	2.511
Fus. Sta. of Wingline	1042	42.201

TABLE III. (CONTINUED)

MODEL COMPONENT:      SPEED BRAKE - Z4

GENERAL DESCRIPTION: FLAT PLATE SPEED BRAKE MOUNTED ON OMS  
POD OF MODIFIED CONFIGURATION 3 VEHICLE, UL70-006139B

MODEL SCALE = .0405

DRAWING NUMBER:

**DIMENSIONS:**

**FULL-SCALE**

### MODEL SCALE

## TOTAL DATA

Area  
Planform  
Wetted  
Span (equivalent)  
Aspect Ratio  
Rate of Taper  
Taper Ratio  
Dihedral Angle, degrees  
Incidence Angle, degrees  
Aerodynamic Twist, degrees  
Toe-In Angle  
Cant Angle  
Sweep Back Angles, degrees  
Leading Edge  
Trailing Edge  
0.25 Element Line  
Chords:  
Root (Wing Sta. 0.0)  
Tip, (equivalent)  
MAC  
Fus. Sta. of .25 MAC  
W.P. of .25 MAC  
B.L. of .25 MAC  
Airfoil Section  
Root  
Tip

**EXPOSED DATA**

Area  
Span, (equivalent)/side  
Aspect Ratio  
Taper Ratio  
Chords  
    Root  
    Tip  
  
Fus. Sta. of Wingline

NA

NA

$$\begin{array}{r} 91.7 \\ 120 \\ \hline 2.18 \\ 1.20 \\ \hline 100 \\ 120 \\ \hline 1319 \end{array}$$
$$\begin{array}{r} 0.150 \\ 2.18 \\ 1.20 \\ 4.050 \\ 4.860 \\ 53.419 \end{array}$$

TABLE III. (CONCLUDED)

MODEL COMPONENT: SPEED BRAKE - Z5

GENERAL DESCRIPTION: FLAT PLATE SPEED BRAKE MOUNTED ON FUSELAGE  
SIDE OF TRAILING EDGE (BODY FLAP) OF CONFIGURATION 3  
VEHICLE , UL70-000139 B  
MODEL SCALE = .0405

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area  
 Planform  
 Wetted  
 Span (equivalent)  
 Aspect Ratio  
 Rate of Taper  
 Taper Ratio  
 Dihedral Angle, degrees  
 Incidence Angle, degrees  
 Aerodynamic Twist, degrees  
 Toe-In Angle  
 Cant Angle  
 Sweep Back Angles, degrees  
 Leading Edge  
 Trailing Edge  
 0.25 Element Line  
 Chords:  
 Root (Wing Sta. 0.0)  
 Tip, (equivalent)  
 MAC  
 Fus. Sta. of .25 MAC  
 W.P. of .25 MAC  
 B.L. of .25 MAC  
 Airfoil Section  
 Root  
 Tip

NA

NA

EXPOSED DATA

Area  
 Span, (equivalent)/side  
 Aspect Ratio  
 Taper Ratio  
 Chords  
 Root  
 Tip  
 Fus. Sta. of Hingeline

79  
120  
2.532  
0.629  
  
140  
88  
  
152.8

0.129  
4.860  
2.532  
0.629  
  
5.670  
3.564  
  
61.884








CANARD SYMBOL NO.	MOUNT	PLATFORM SKETCH	AREA (FT <sup>2</sup> /SIDE)	L.E. SWEEP (DEG)	INCIDENCE ANGLES (DEG)	DIHEDRAL ANGLES (DEG)
H <sub>2</sub>	BODY	 AR=2.06	13	60	0, + 10, + 20	0
H <sub>3</sub>	BODY	 AR=2.06	26	60		
H <sub>4</sub>	BODY	 $\lambda = .2$	13	45		
H <sub>5</sub>	BODY	 $\lambda = .2$	26	45		
H <sub>6,14</sub>	BODY		25	ANGLE FROM MOUNTING SURFACE 40	0	0, +45
H <sub>7,15</sub>	BODY		50	ANGLE FROM MOUNTING SURFACE 40	0	
H <sub>8</sub>	MID-GLOVE		13	ANGLE FROM MOUNTING SURFACE 30	0 WITH RESPECT TO GLOVE	0

TABLE IV. SUMMARY OF CANARD GEOMETRIES








CANARD SYMBOL NO.	MOUNT	PLATFORM SKETCH	AREA (FT <sup>2</sup> /SIDE)	L. E. SWEEP (DEG.)	INCIDENCE ANGLES (DEG)	DIHEDRAL ANGLES (DEG)
H <sub>9</sub>	MID-GLOVE		26	ANGLE FROM MOUNTING SURFACE 30	WITH RESPECT 0 TO GLOVE	0
H <sub>10</sub>	MID-GLOVE		6.5	ANGLE FROM MOUNTING SURFACE 15		
H <sub>11</sub>	MID-GLOVE		13	ANGLE FROM MOUNTING SURFACE 15		
H <sub>12</sub>	GLOVE APEX		50	ANGLE FROM MOUNTING SURFACE 20		
H <sub>13</sub>	GLOVE APEX		85	ANGLE FROM MOUNTING SURFACE 34		
H <sub>16</sub>	GLOVE APEX		84.5	ANGLE FROM MOUNTING SURFACE 17		
H <sub>17</sub>	GLOVE APEX		168.5	ANGLE FROM MOUNTING SURFACE 34		

TABLE IV. (CONTINUED)







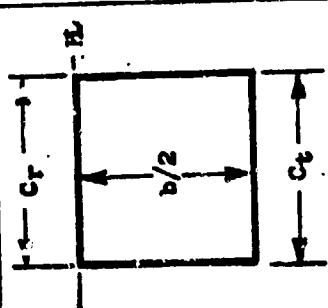
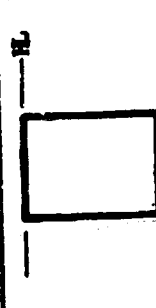
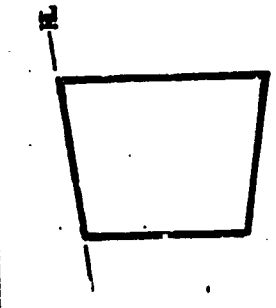
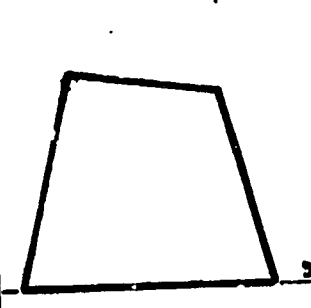
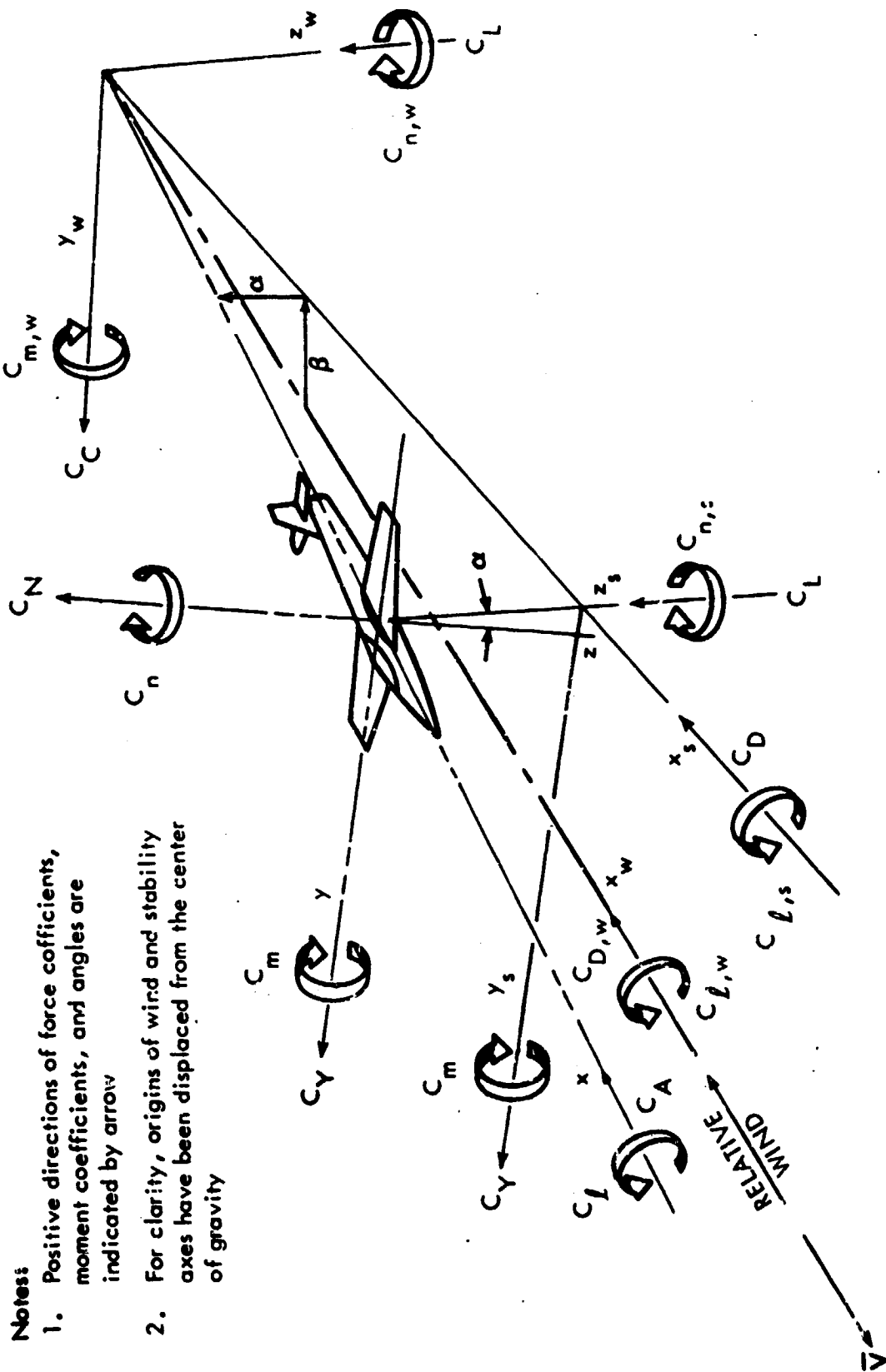
CANARD SYMBOL NO.	MOUNT	PLANFORM SKETCH	AREA (FT <sup>2</sup> /SIDE)	L.E. SWEEP ANGLES (DEG)	INCIDENCE ANGLES (DEG)	DIHEDRAL ANGLES (DEG)
H <sub>18</sub>	GLOVE APEX		54.0	11	0.50	0
H <sub>24</sub>	GLOVE APEX		~30	11	0.50	0
H <sub>23</sub>	NOSE		21	21	0	0
H <sub>25</sub>	NOSE		21	21	0	0

TABLE IV. (CONCLUDED)

TABLE V. SUMMARY OF SPEED BRAKE GEOMETRIES

SYMBOL	PLANFORM SKETCH	MOUNTING SURFACE	HINGELINE X LOCATION (F.S. STA IN.)	DEFLECTION ANGLE (DEG. TO LOCAL SURFACE)	EXPOSED AREA (FT <sup>2</sup> )	EXPOSED SEMISPAN $b/2$ (IN.)	EXPOSED CHORD	
							TIP $C_t$ (IN.)	ROOT $C_r$ (IN.)
$z_2$		WING UPPER SURFACE	1195	5	137.6	107	107	107
$z_3$		WING LOWER SURFACE (AHEAD OF LANDING GEAR)	1042	60	62.3	84	62	62
$z_4$		CMS POD	1319	60	91.7	120	120	100
$z_5$		FUSELAGE SIDE AT TRAILING EDGE (ONLY FLAP)	(APPROX) 1528	60	79	128 (TOP) 112 (BOTTOM)	88	140

MODEL FIGURES



- Notes:**
1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrow
  2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

Figure 1. - Axis Systems.

NOTES:

ALL DIMENSIONS IN INCHES

REFERENCE DIMENSIONS

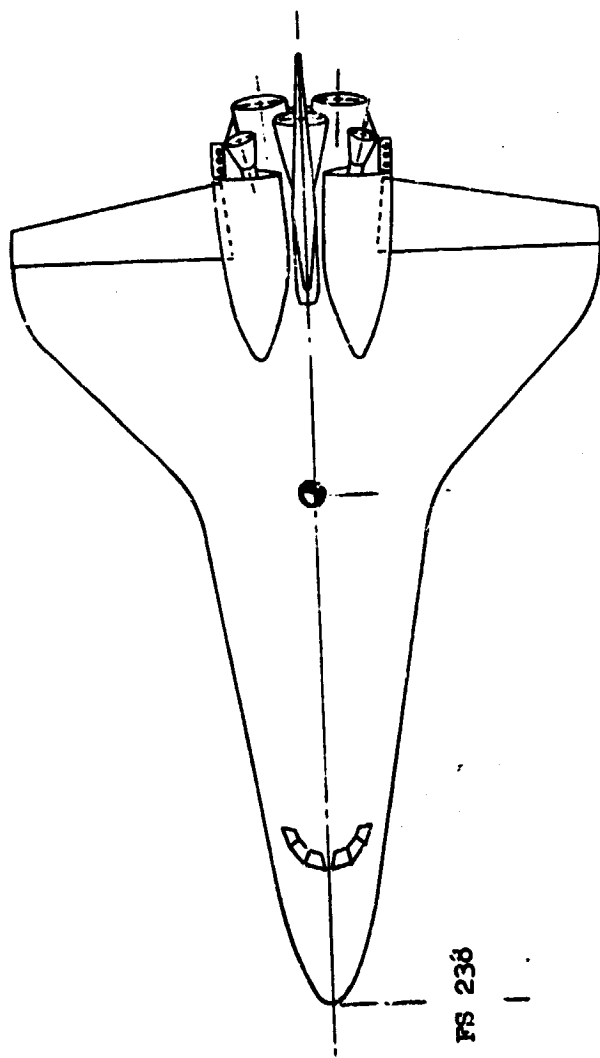
$S = 2690 \text{ ft.}^2$

$\bar{c} = 474.81 \text{ in.}$

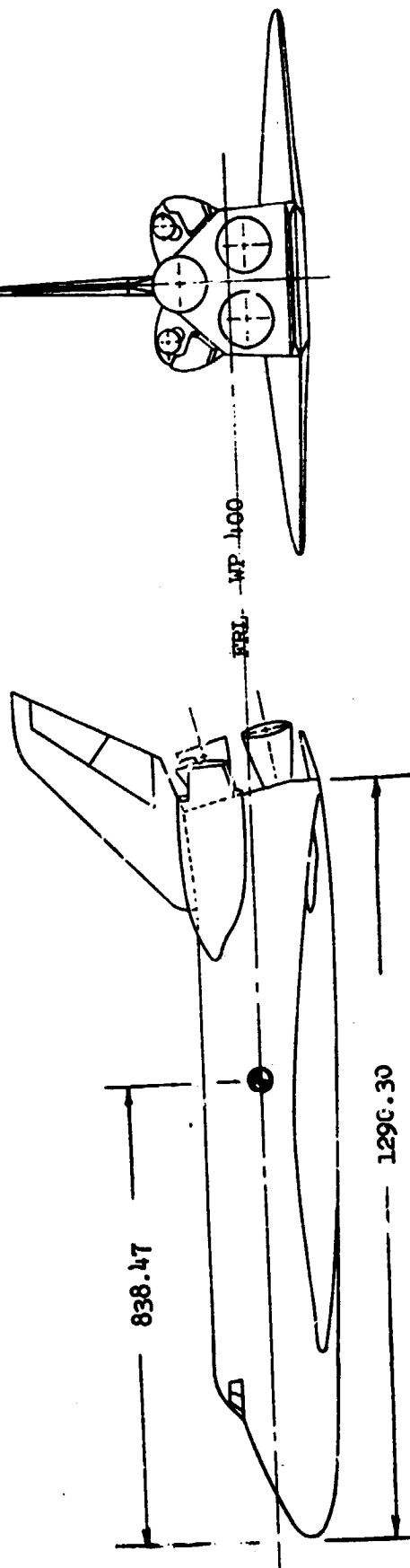
$b = 936.68$

$XMRP = 65\% \text{ } l_{\text{body}}$   
aft of nose

CONFIGURATION -139B



82

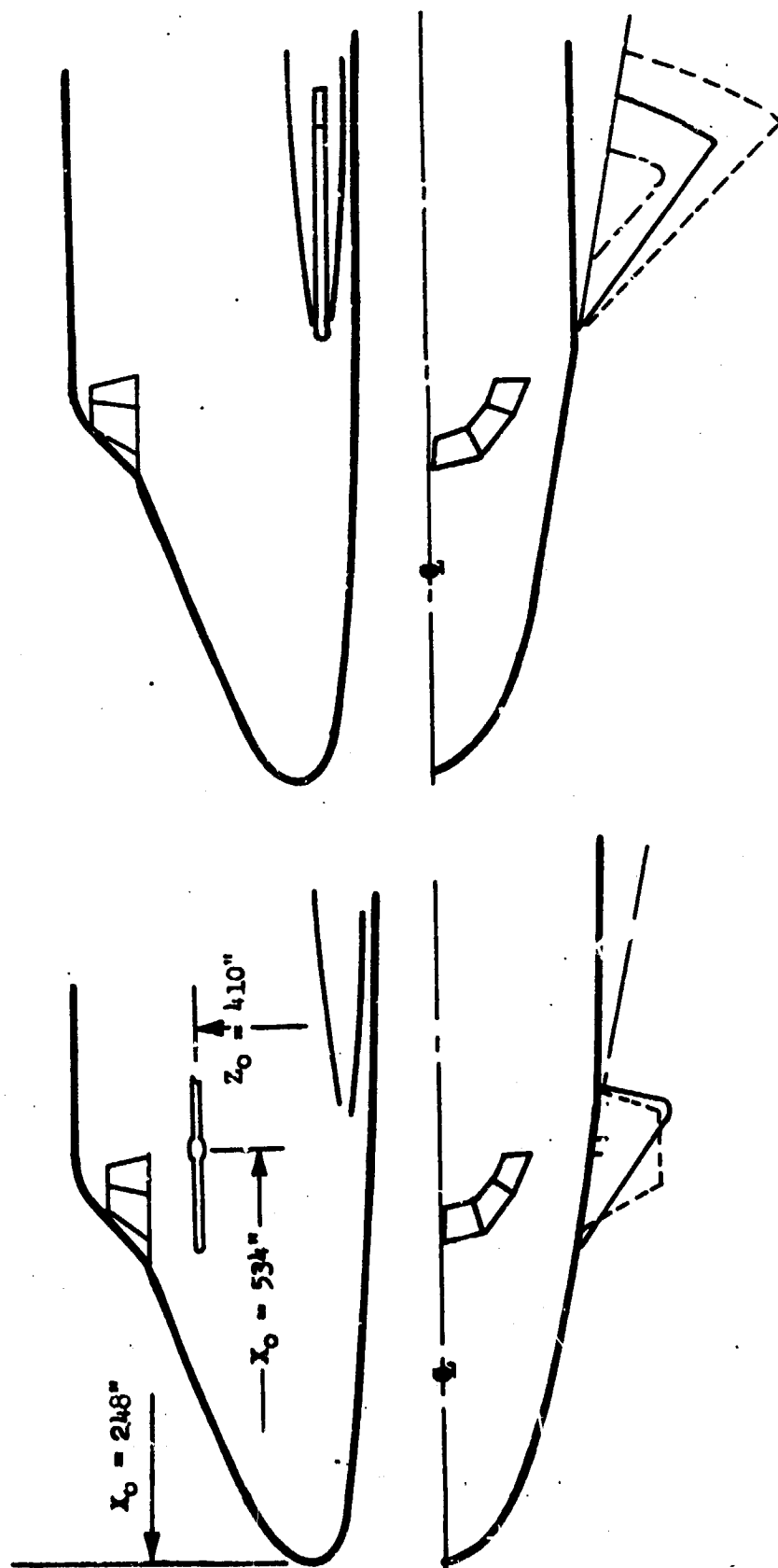


a. General Arrangement

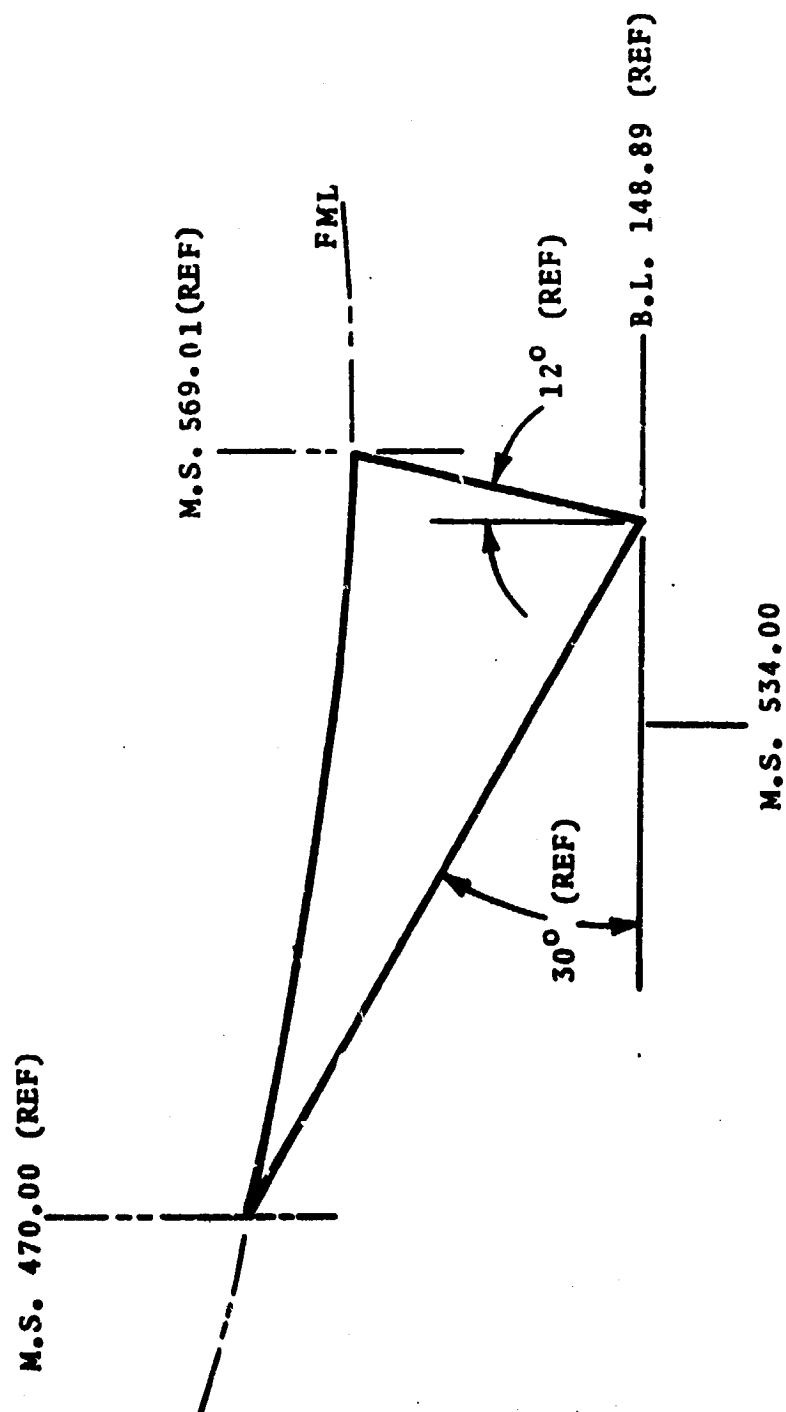
Figure 2. - Model Sketches.

GLOVE MOUNTED

FUSELAGE MOUNTED

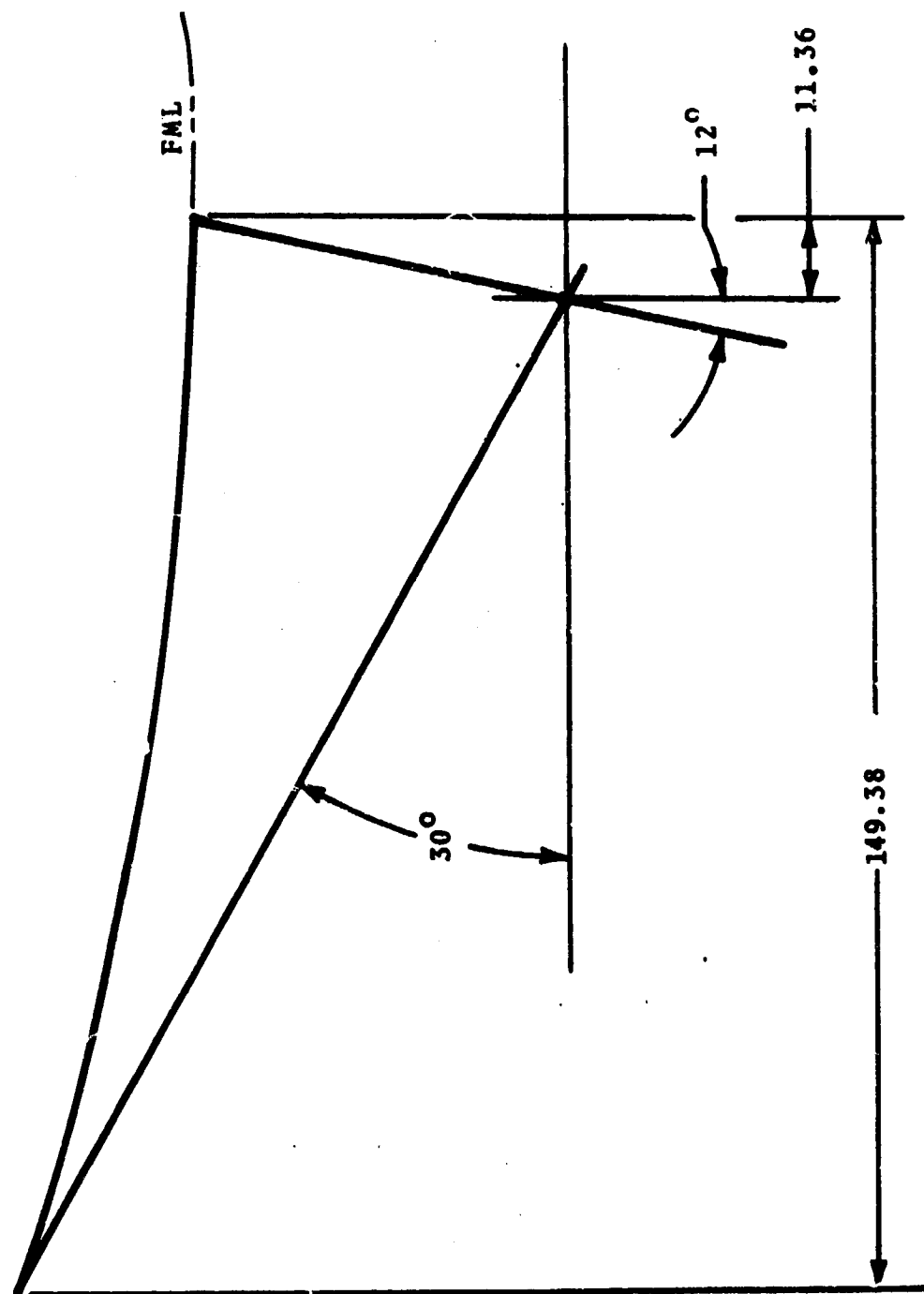


b. Trimmer Types  
Figure 2. - Continued.



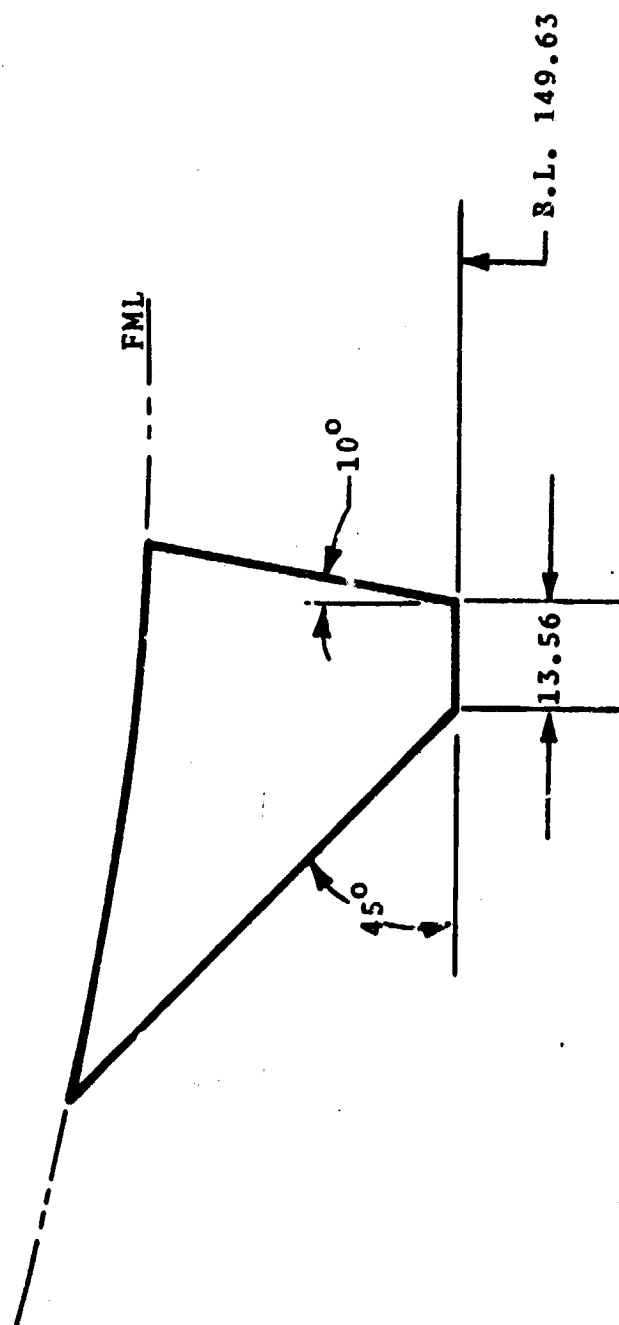
c. H<sub>2</sub> Trimmer

Figure 2. - Continued.

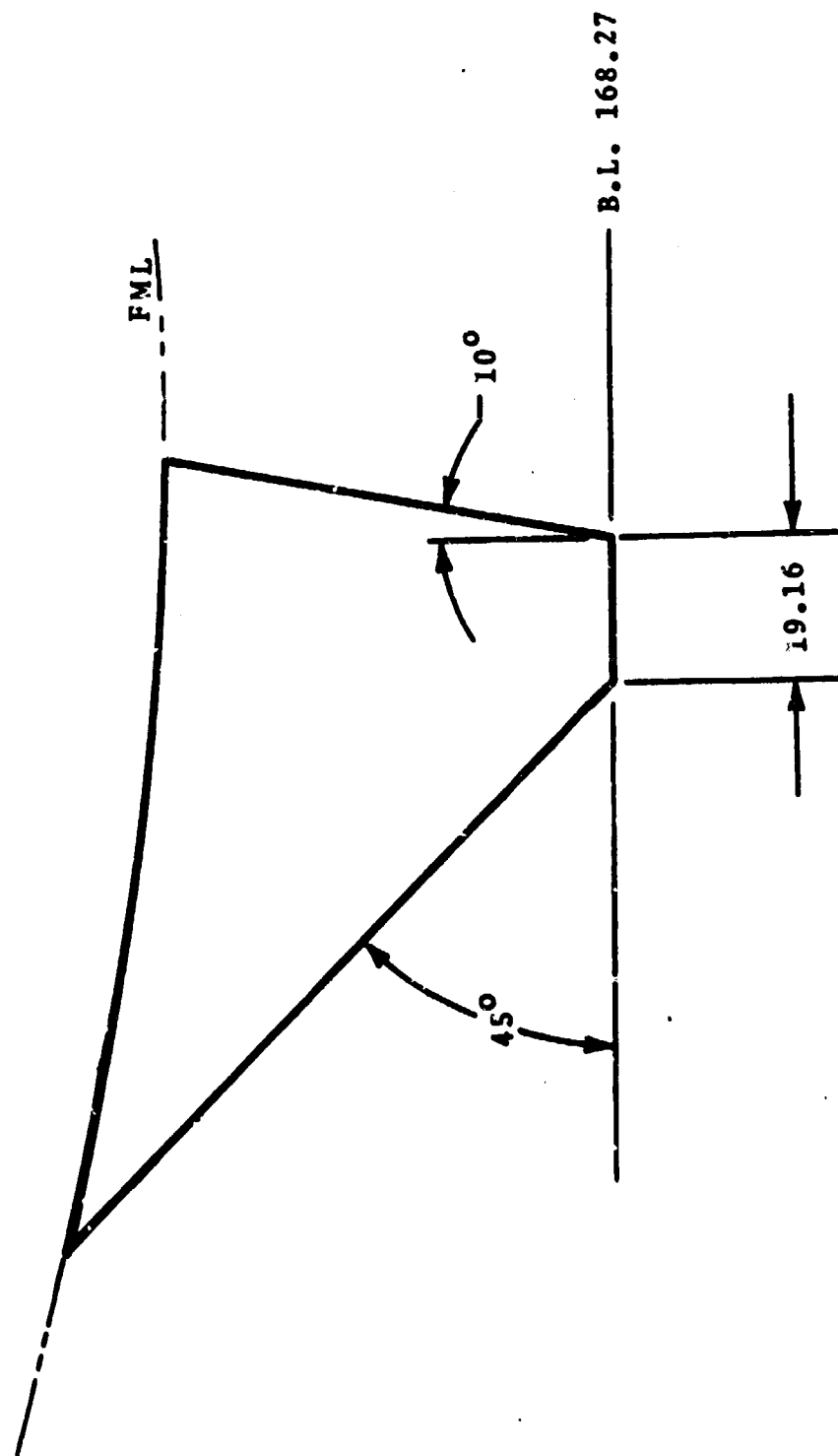


d. H<sub>3</sub> Trimmer  
Figure 2. - Continued.



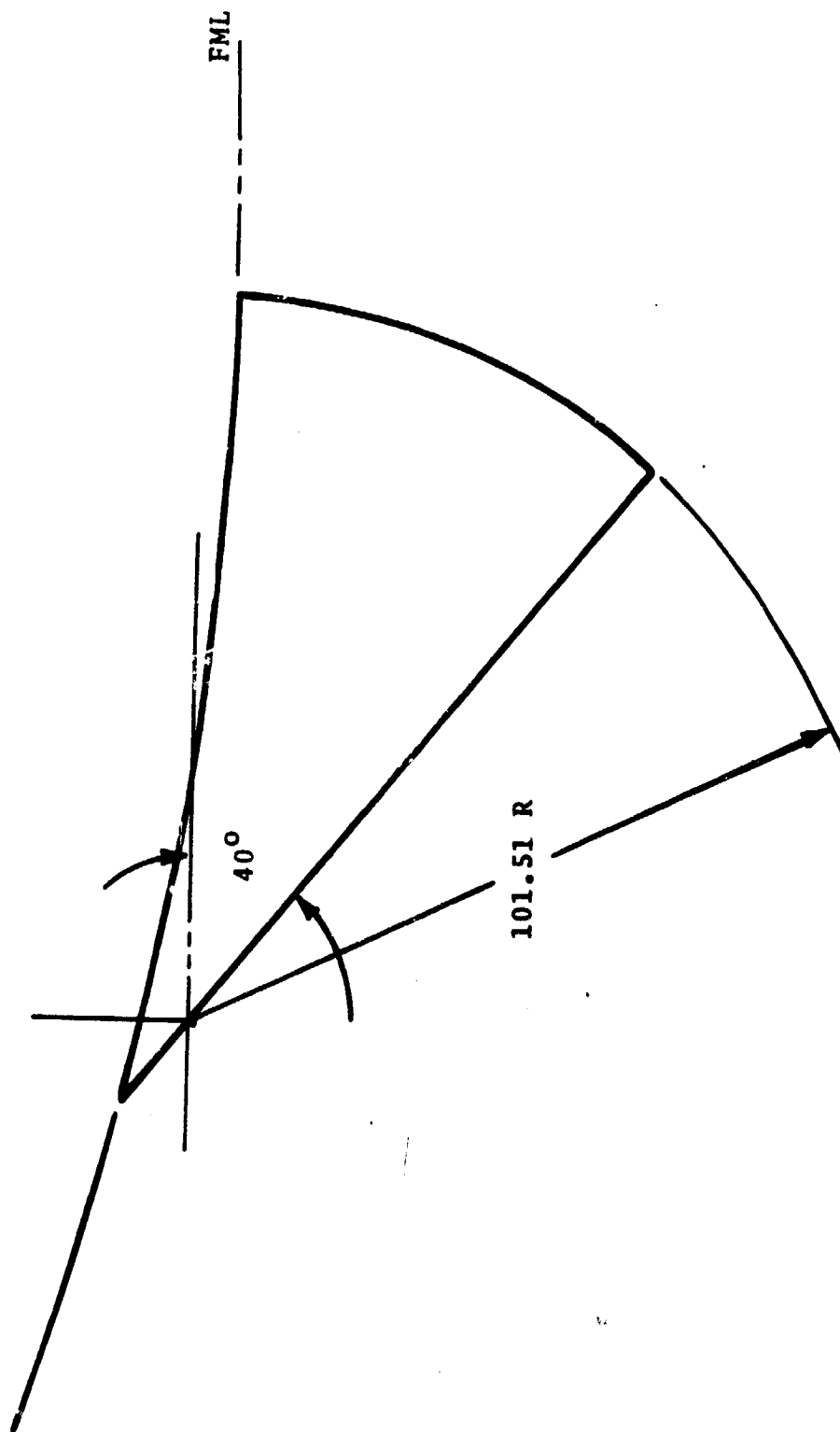


e. H<sub>4</sub> Trimmer  
Figure 2. - Continued.

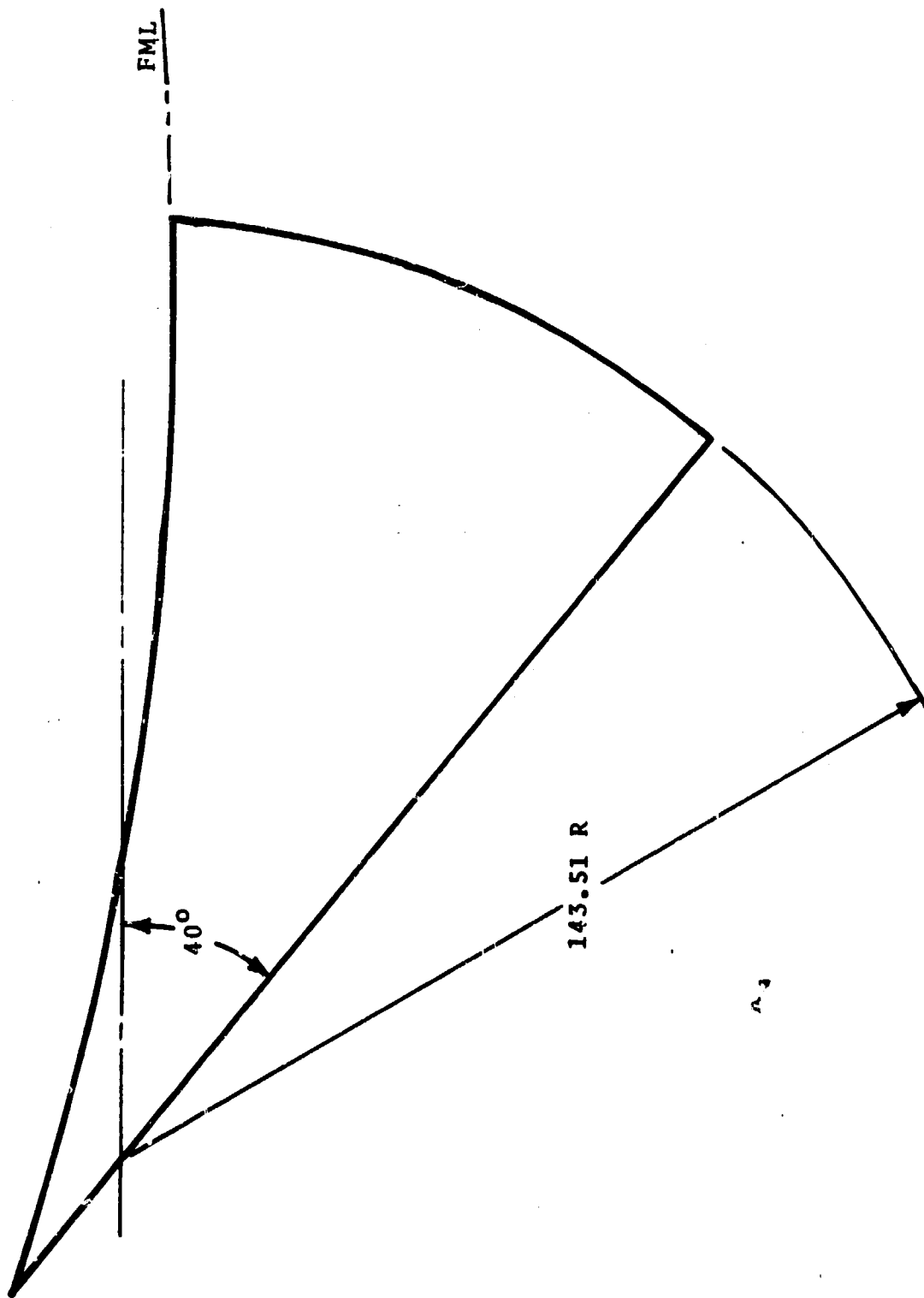


f. H<sub>5</sub> Trimmer

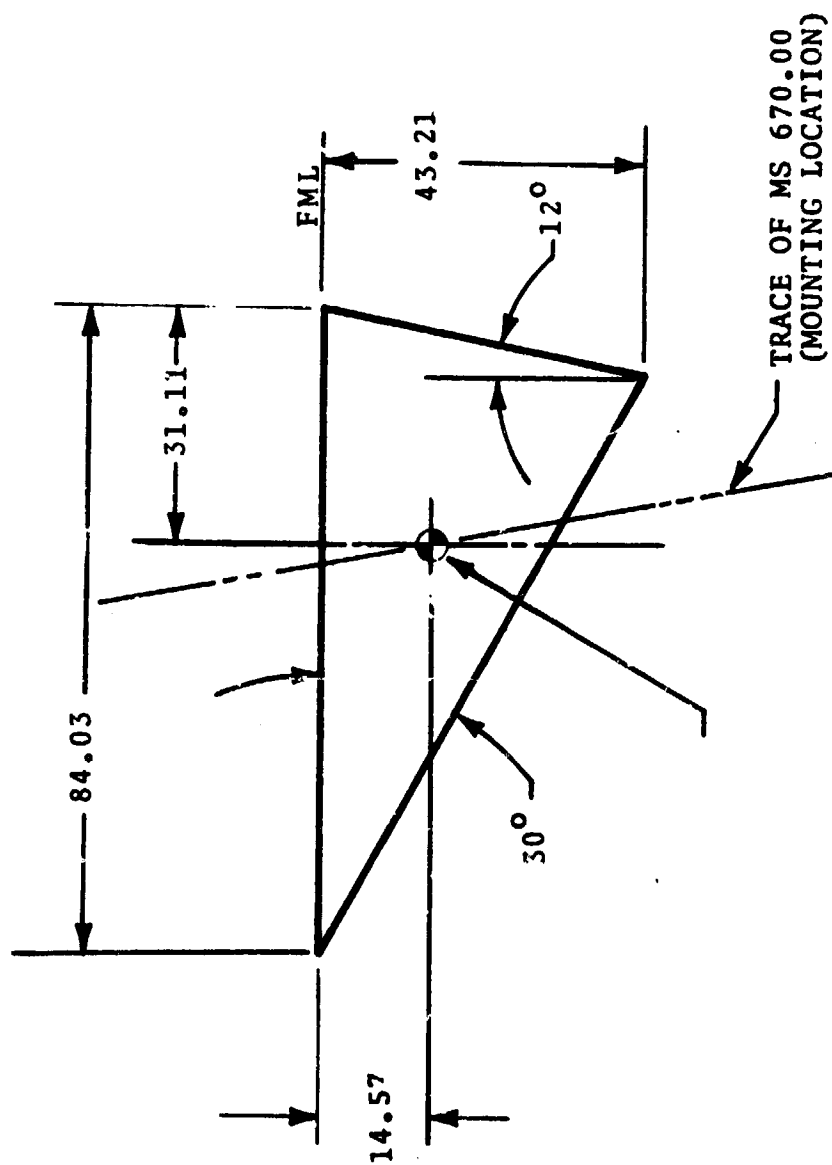
Figure 2. - Continued.



g. H<sub>6</sub> Trimmer  
Figure 2. - Continued.

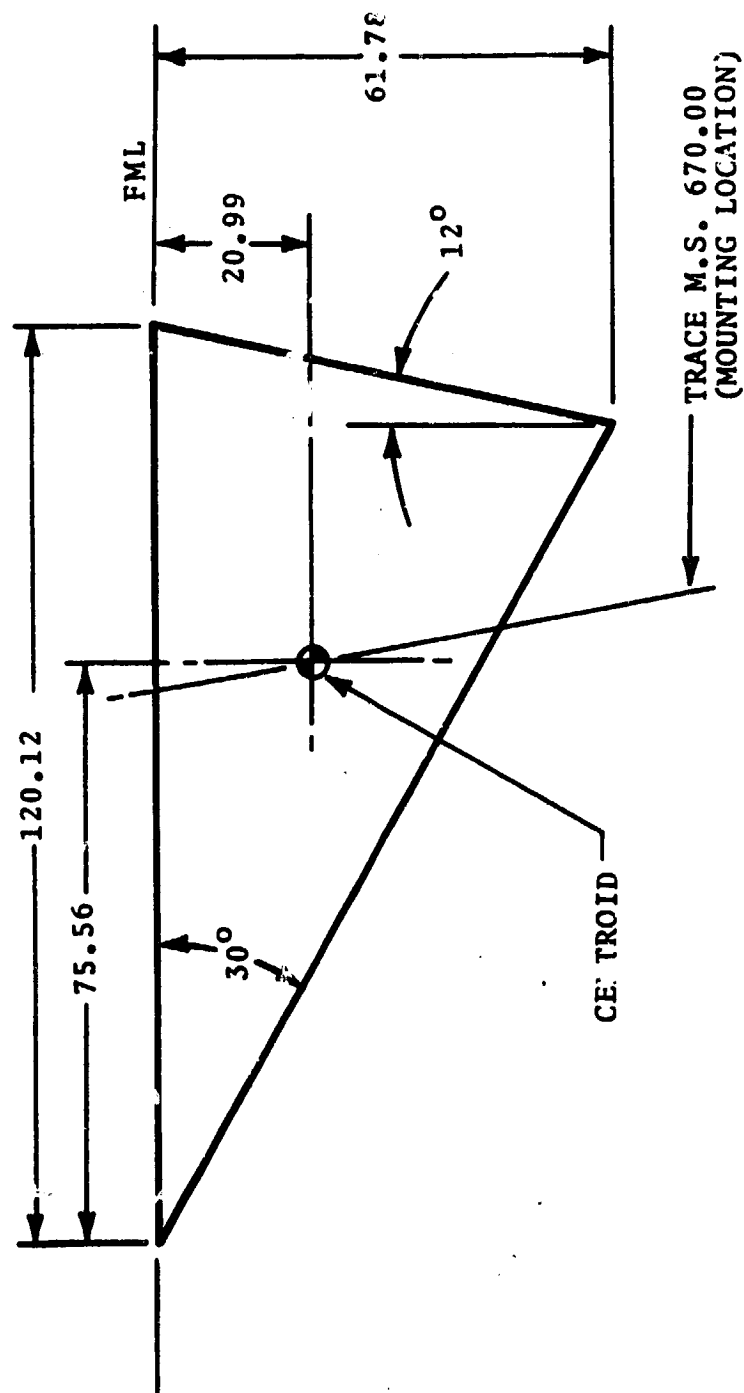


h. H<sub>7</sub> Trimmer  
Figure 2. - Continued.



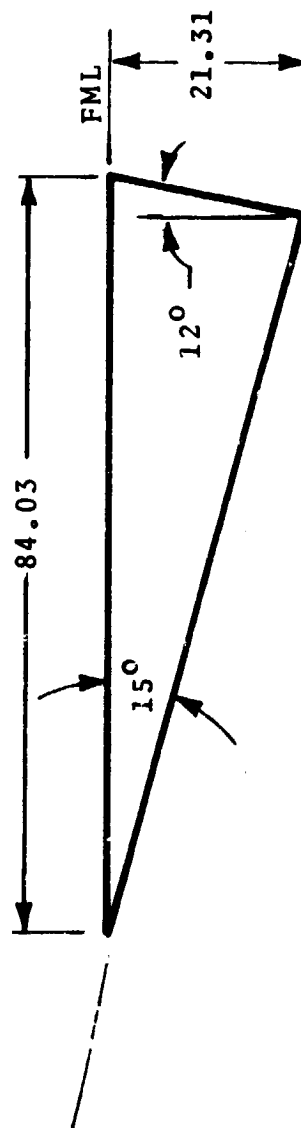
1. Hg Trimmer

Figure 2. - Continued.

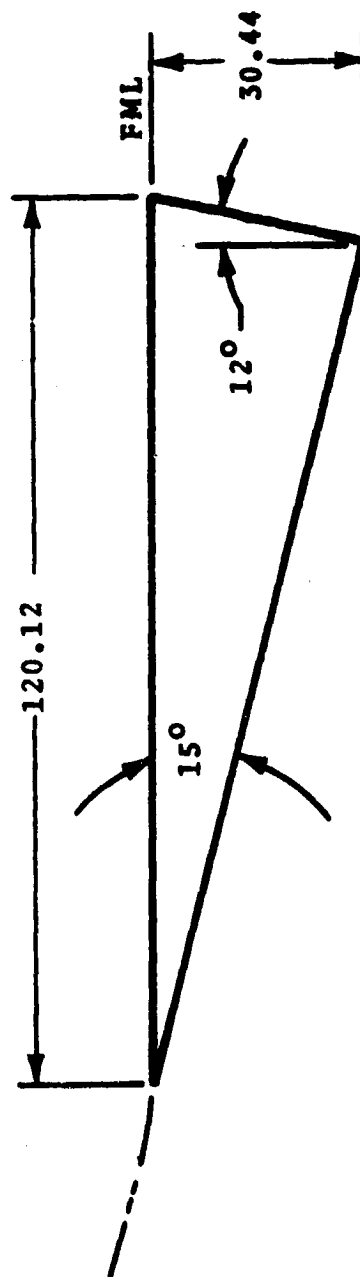


J. H<sub>9</sub> Trimmer

Figure 2. - Continued.



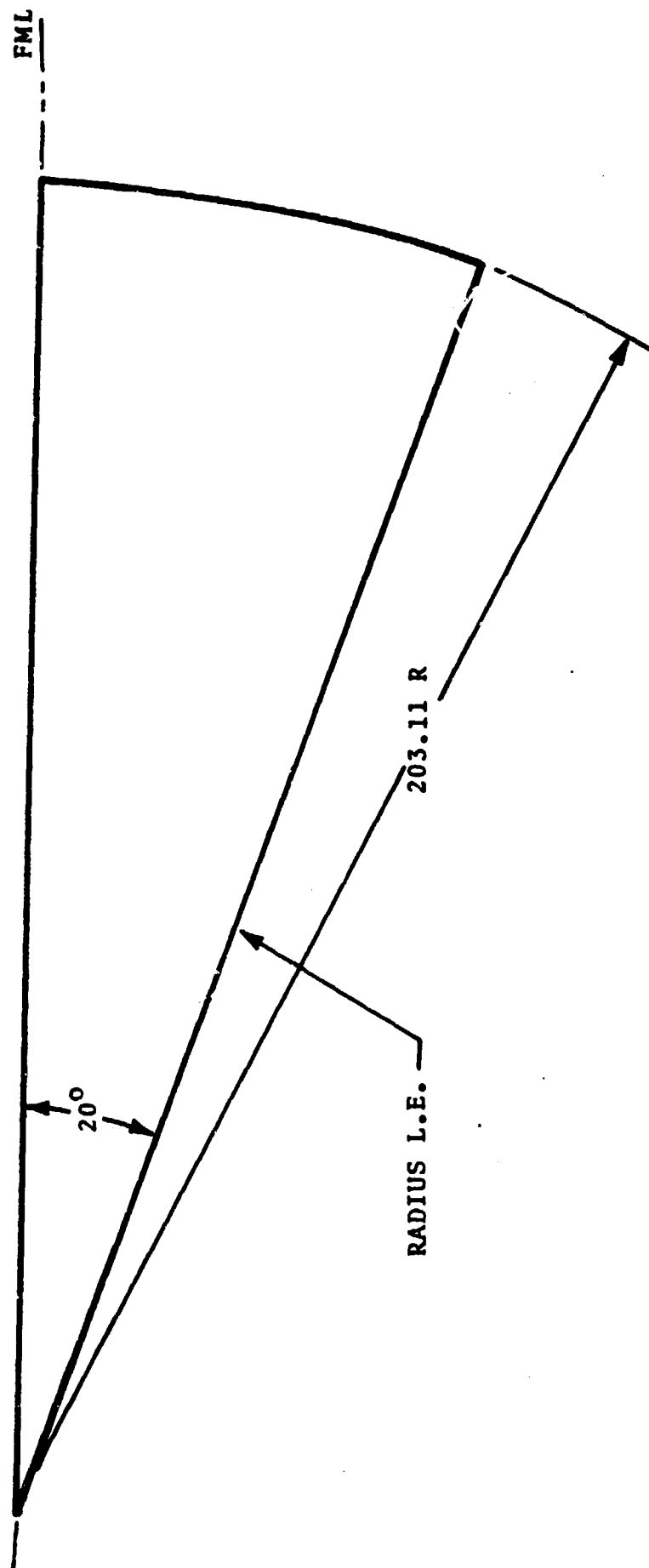
k. H<sub>10</sub> Trimmer  
Figure 2. - Continued.



1. H<sub>11</sub> Trimmer  
Figure 2. - Continued.

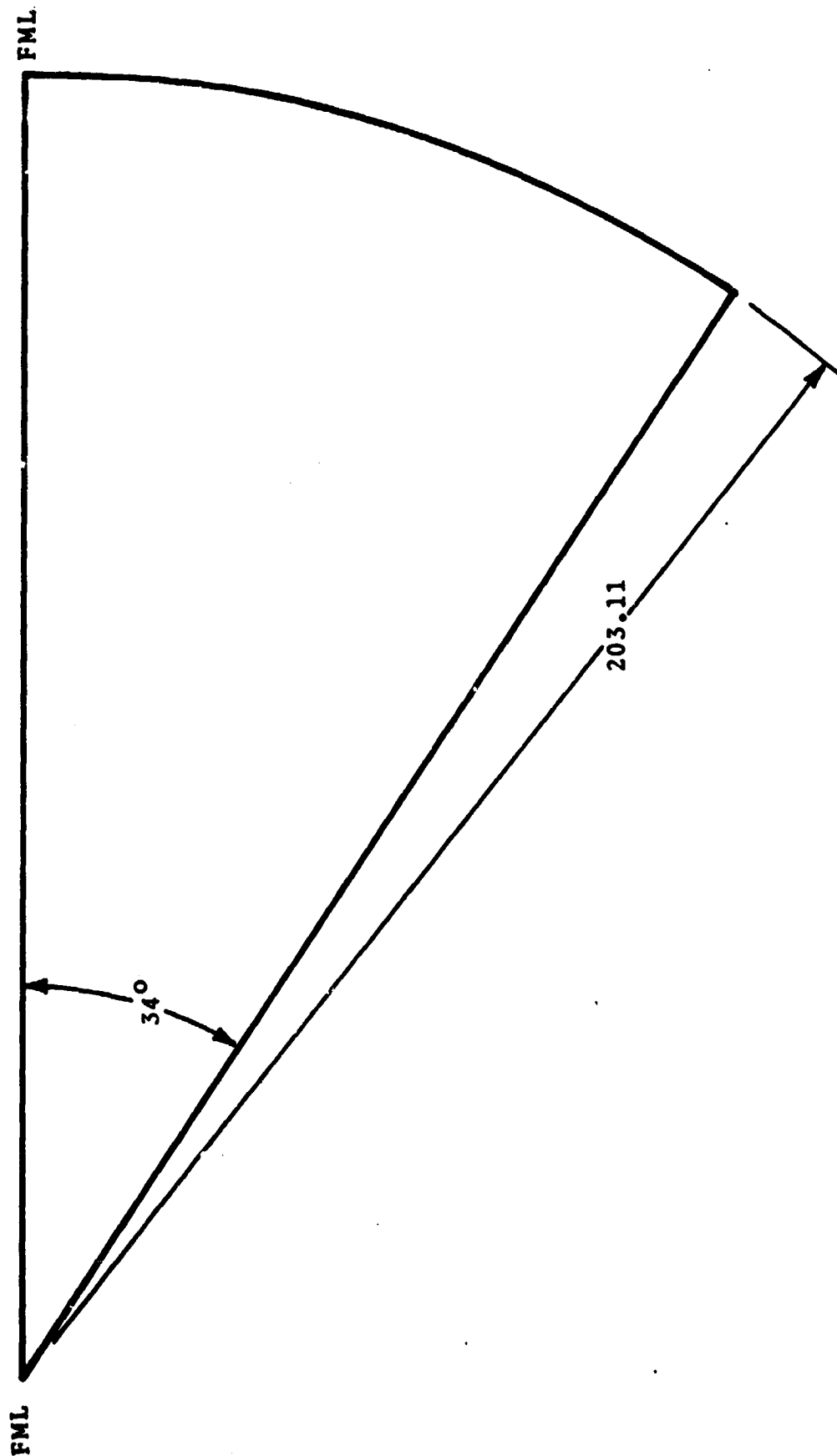
CP



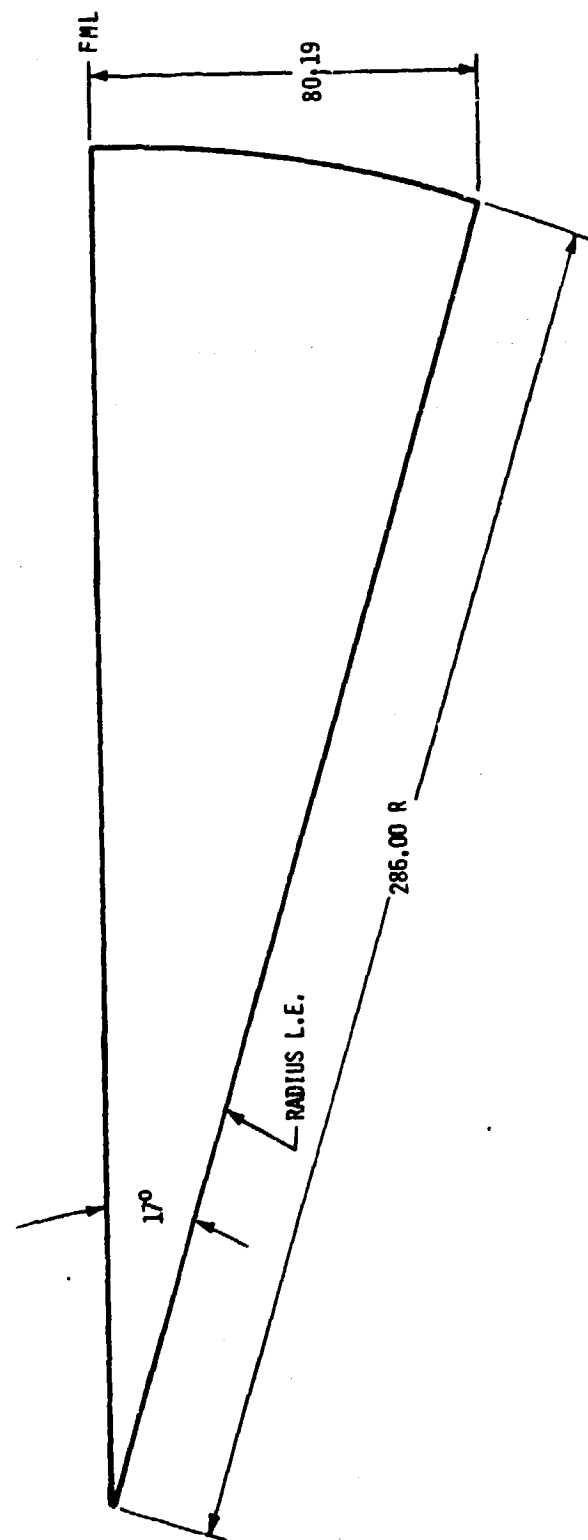


m. H<sub>12</sub> Trimmer

Figure 2. - Continued.

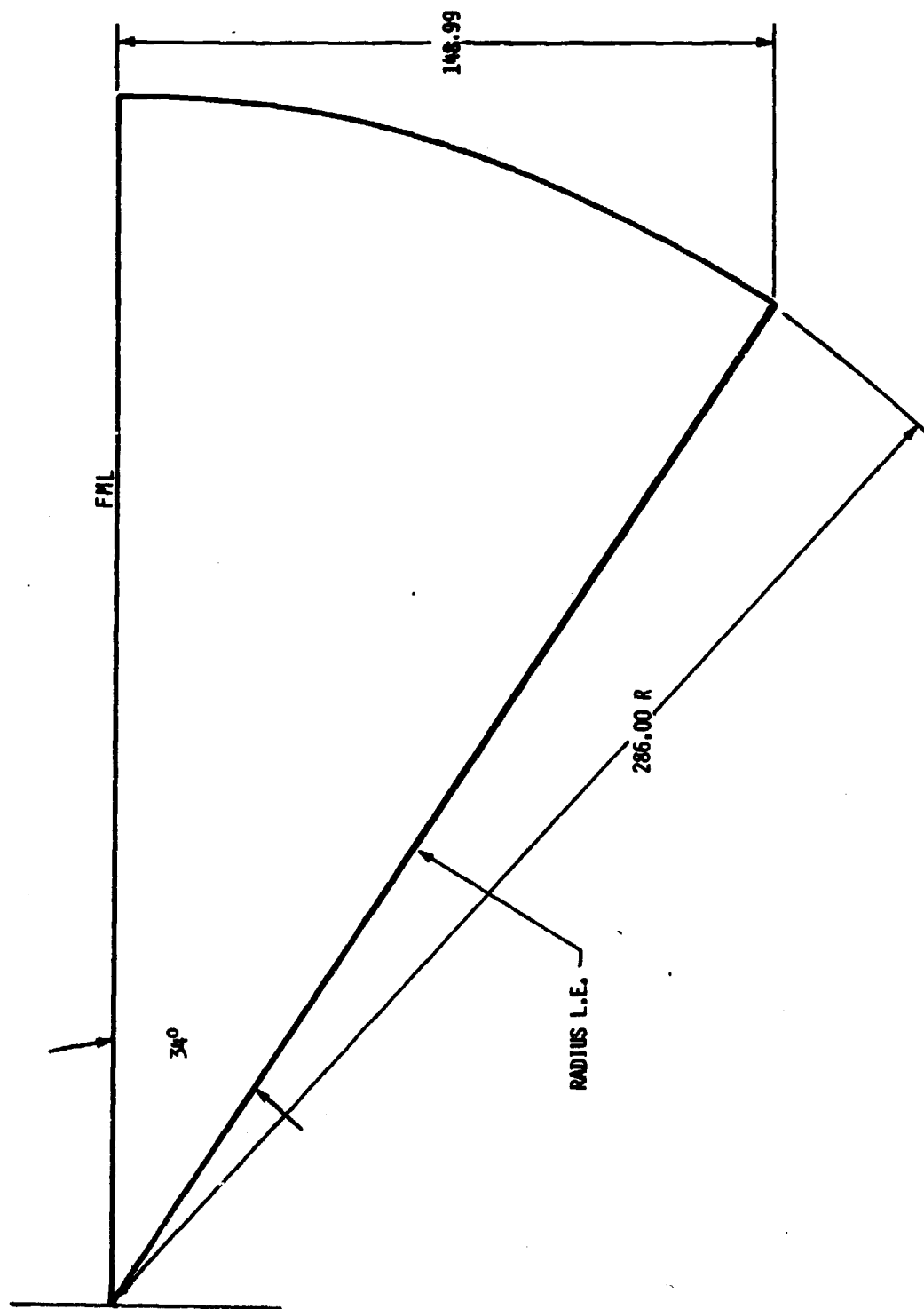


n. H<sub>13</sub> Trimmer  
Figure 2. - Continued.



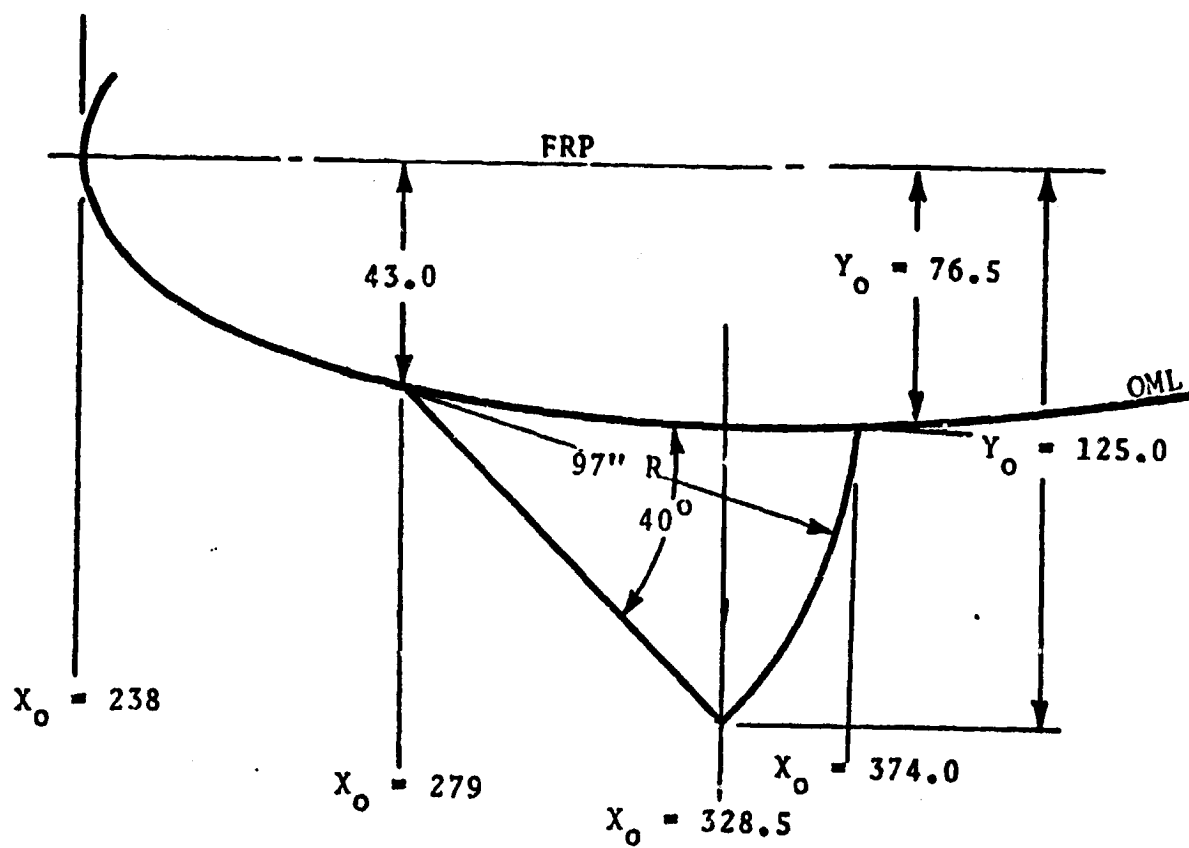
o. H<sub>16</sub> Trimmer

Figure 2. - Continued.

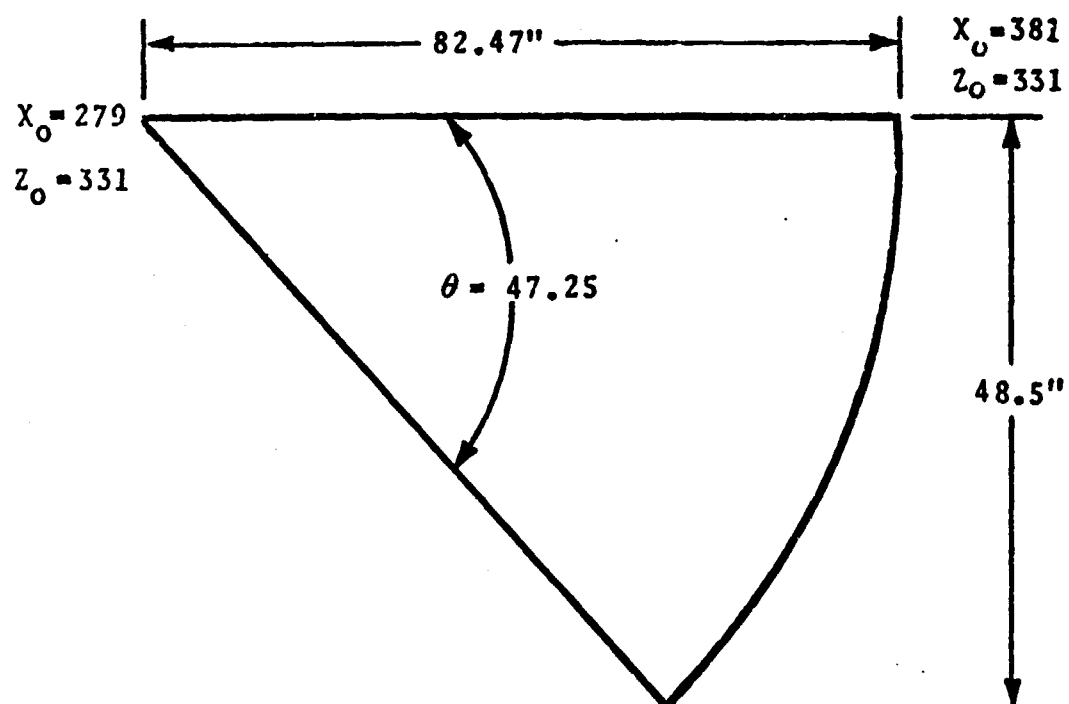


P. H<sub>17</sub> Trimmer

Figure 2. - Continued.



4. H<sub>23</sub> Trimmer  
 Figure 2. - Continued.  
 98



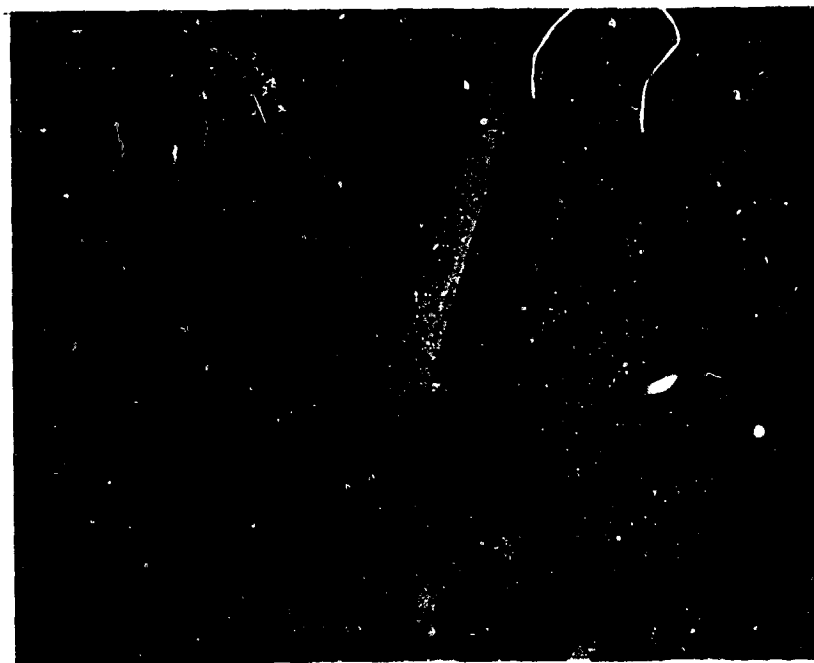
r. H<sub>25</sub> Trimmer  
Figure 2. - Concluded.



107-23786



107-23786  
photograph



[REDACTED]

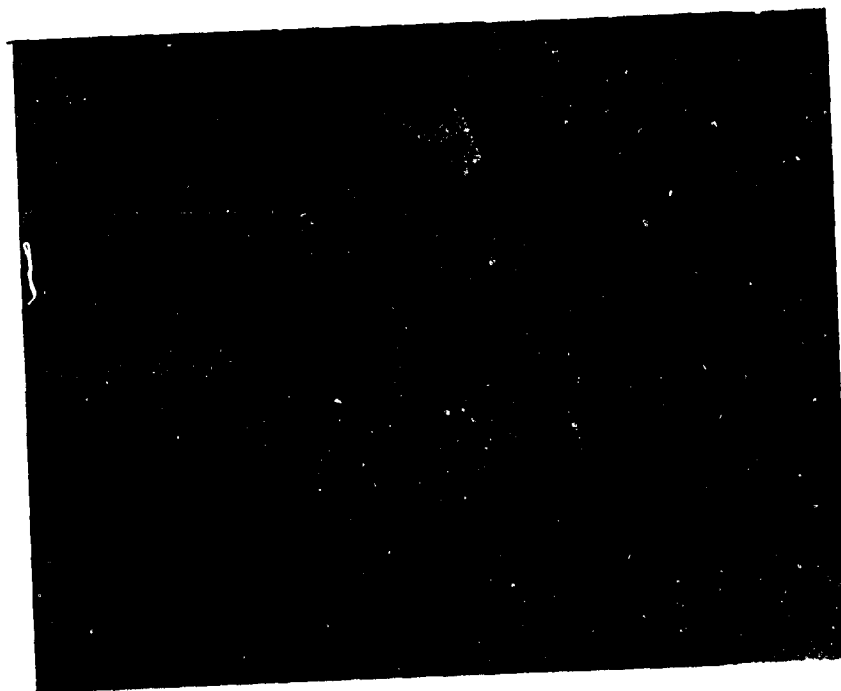


[REDACTED]



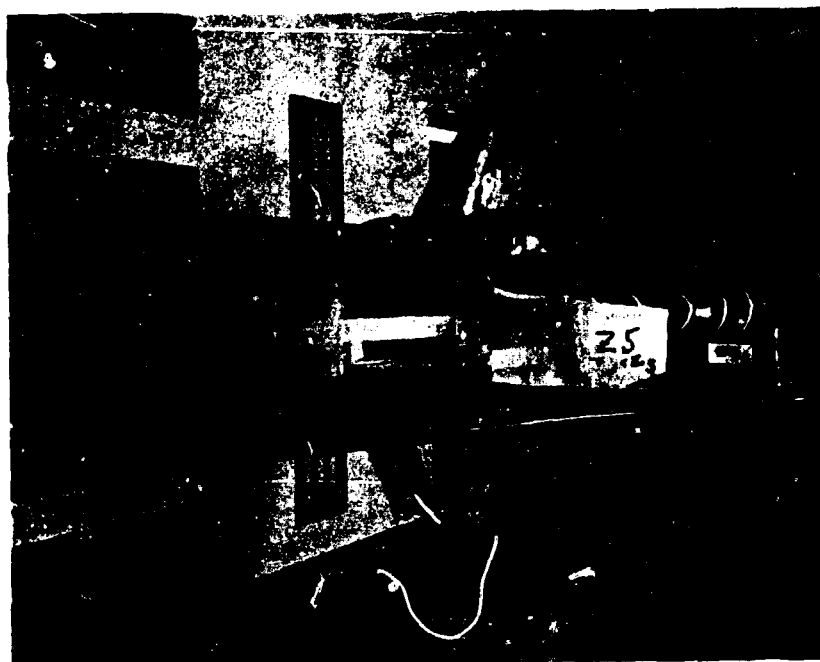


10-23-76



10-23-76

10-23-76



Configuration: B<sub>19</sub> C<sub>7</sub> M<sub>4</sub> F<sub>5</sub> W<sub>107</sub> E<sub>23</sub> V<sub>7</sub> R<sub>6</sub> Z<sub>5</sub> E<sub>2</sub>



CONFIDENTIAL



I. Configuration:  $B_{19}C_{74}M_{5107}F_{23}W_{76}E_{23}V_{76}R_{6}Z_5$



J. Configuration:  $B_{19}C_{74}M_{5107}F_{23}W_{76}E_{23}V_{76}R_{6}Z_4$

Figure 3. - Continued.

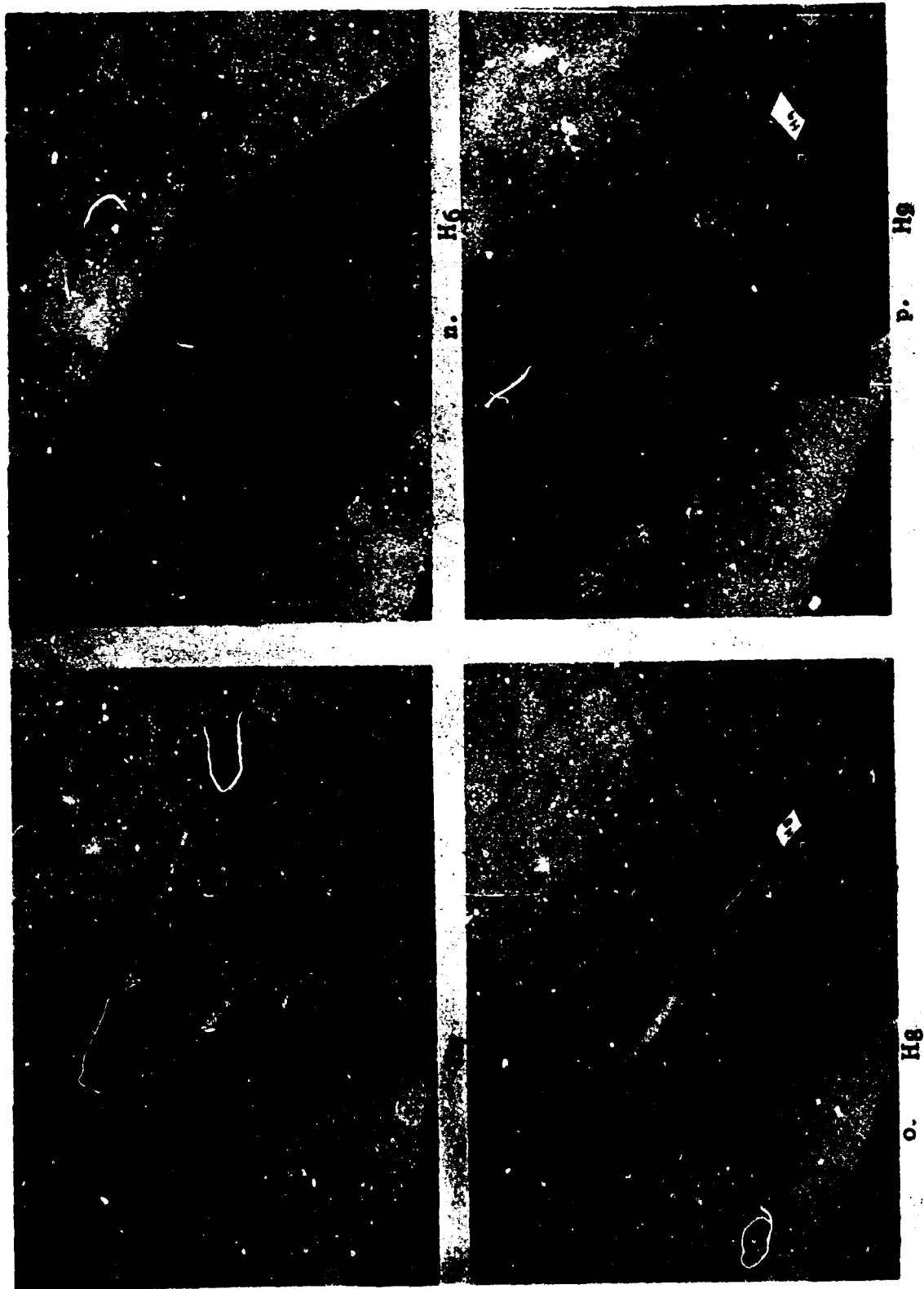


K. Configuration:  $B_{19} C_{74} M_{45} F_{107} W_{23} E_{23} V_{76} R_{22} Z_3$



Configuration:  $B_{19} C_{74} M_{45} F_{107} W_{23} E_{23} V_{76} R_{22} Z_4$

Figure 3. - Continued.



Configuration: B19C7H M4F5W107E23V7R6X9

Figure 3. - Continued.



q. H11



r. H10



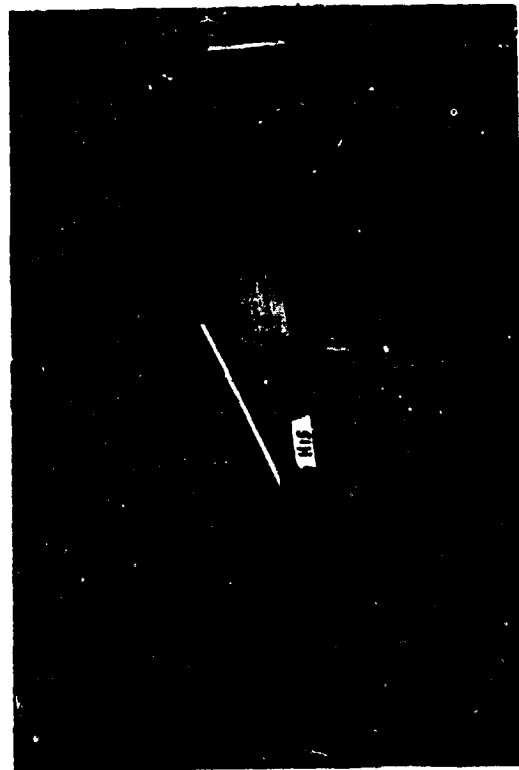
s. H12



t. H13

Configuration: B19C7H M4F5W107E23V7R6X9

Figure 3. - Continued.



u. H15



v. H16



w. H16



x. H17

Configuration: B19C7H-M4F5W107E23V7R6X9

Figure 3. - Continued.



H18



H25



Figure 3. - (Continued)

Figure 3. - (Continued)



DATA FIGURES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOILER	REFERENCE INFORMATION
(DP102)	QAZ1 B17					SREF 4.4119 SQ.FT.
(DP087)	QAZ1 B17C7					LREF 19.2299 INCHES
(DP082)	QAZ1 B17C7			-18.000		BREF 37.9359 INCHES
(DP082)	QAZ1 B17C7			-18.000		XREF 43.5574 INCHES
(DP087)	QAZ1 B17C7	.000	.000	-18.000		YREF .0000 INCHES
(DP087)	QAZ1 B17C7	.000	.000	-18.000		ZREF 16.2000 INCHES
(DP008)	QAZ1 B17C7	.000	.000	-18.000	.000	SCALE .0405 INCHES

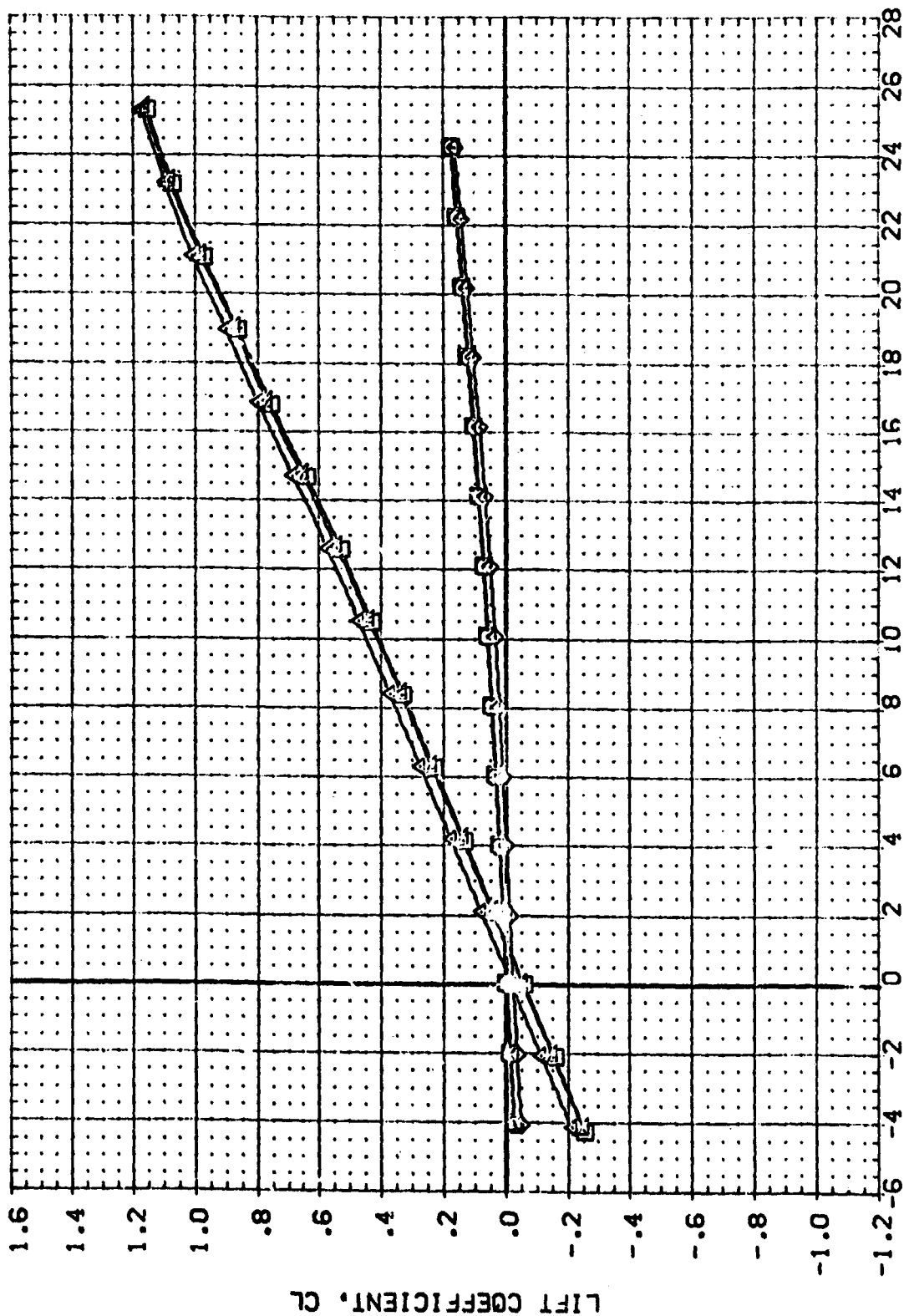


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

(A)MACH = .26

PAGE :

DATA SET SYMBL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP102]	0A21 B17					SREF 4.4119 50 FT
[DP087]	0A21 B17C7					LREF 19.2258 INCHES
[DP087]	0A21 B17C7					BREF 37.8258 INCHES
[DP087]	0A21 B17C7					XREF 43.8874 INCHES
[DP087]	0A21 B17C7					YREF 16.2000 INCHES
[DP087]	0A21 B17C7					ZREF 16.2000 INCHES
[DP087]	0A21 B17C7					SCALE .0405

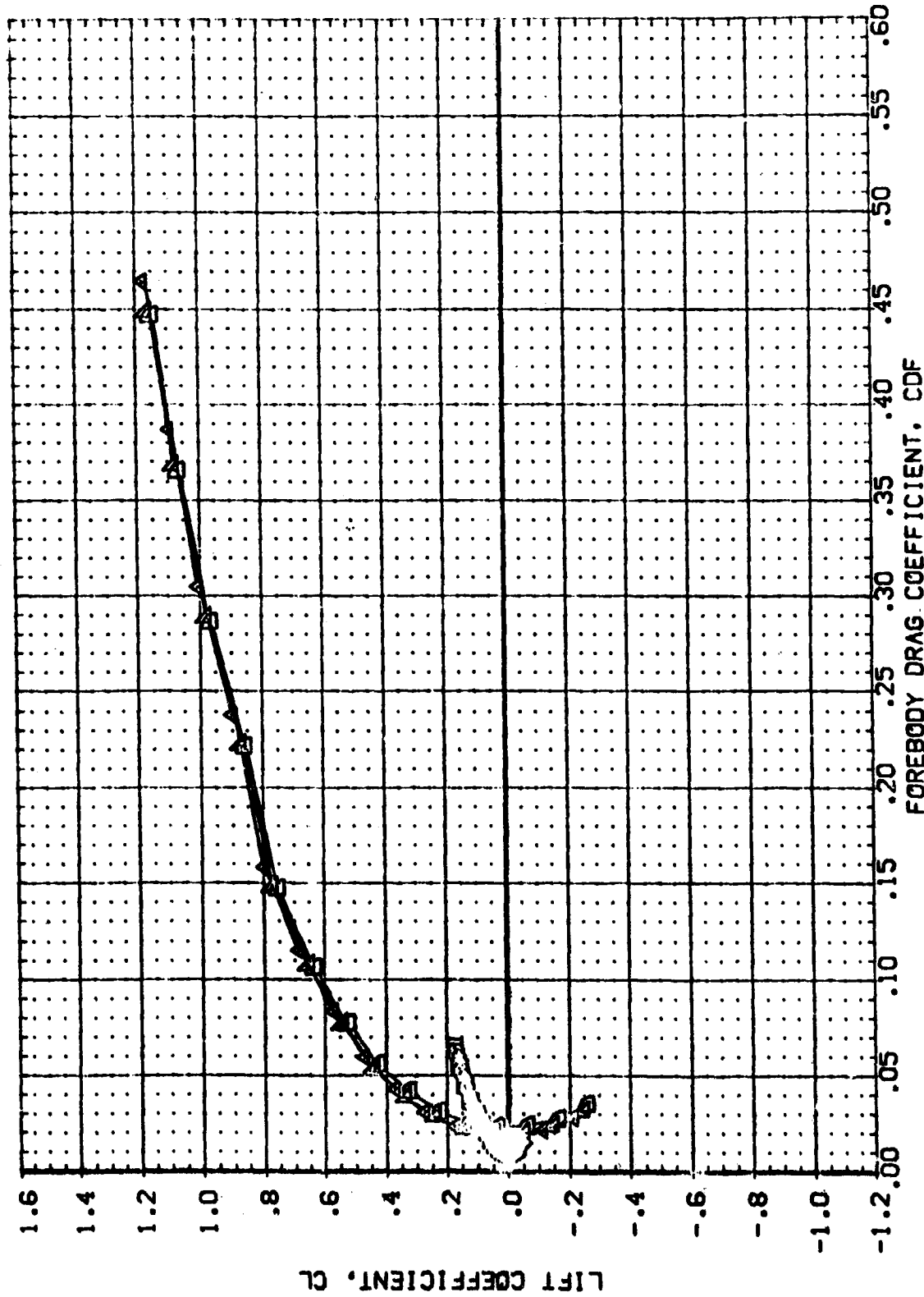


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

CAJMAC H = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(DP102)	CA21 817					SREF 4.4119 SO.FT.
(DP057)	CA21 817C7					LREF 19.2259 INCHES
(DP052)	CA21 817C7					BREF 37.9359 INCHES
(DP082)	CA21 817C7					YREF 43.5874 INCHES
(DP087)	CA21 817C7					YREF 16.2000 INCHES
(DP009)	CA21 817C7					SCALE .0405
						SCALE

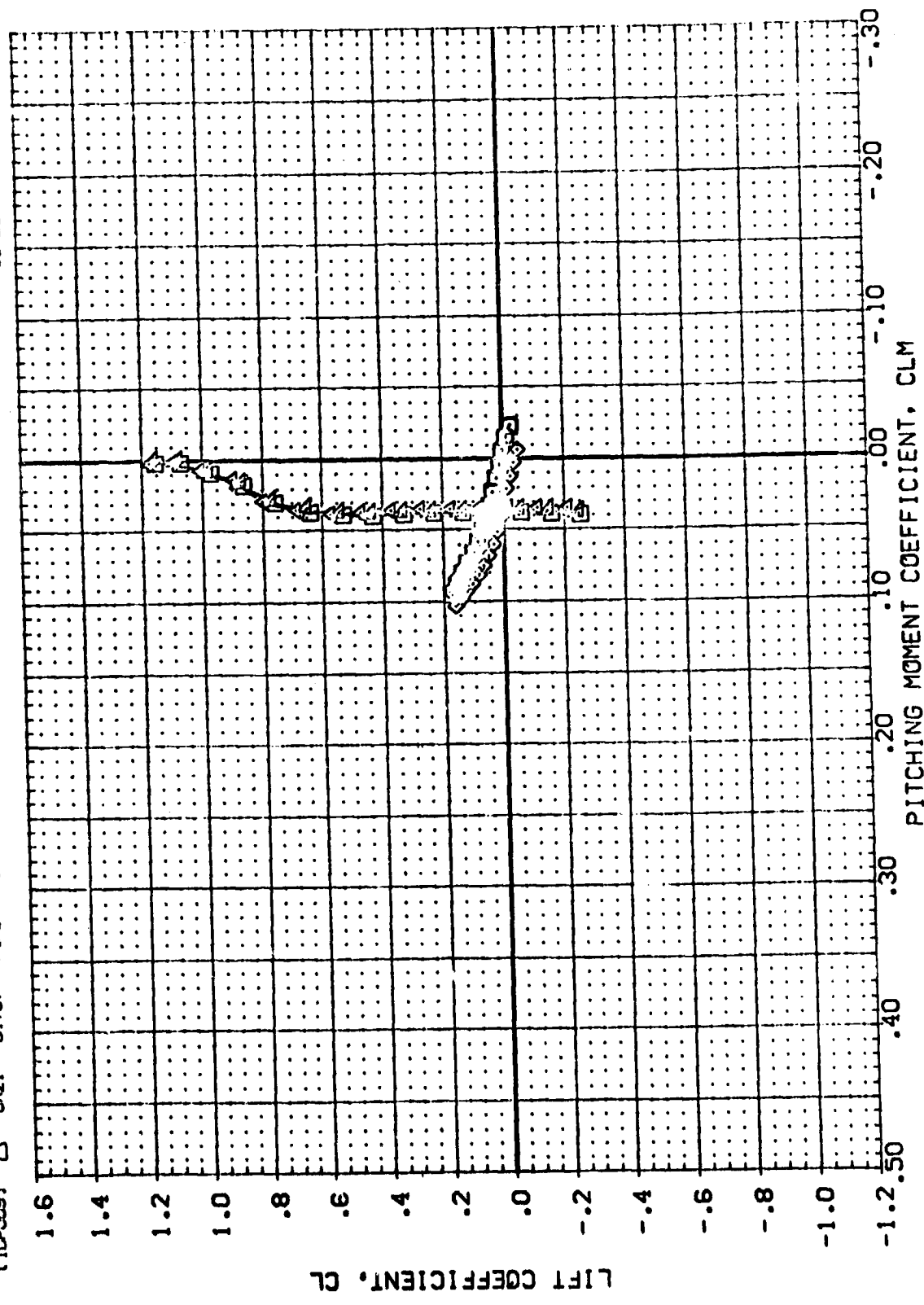


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEV	AILERON	BOFLAP	SPUARK	REFERENCE INFORMATION
10102	□	0-21 817	.000	.000	-18.000	.000	SRGF 4.4119 50. FT.
10107	□	0-21 817C7	.000	.000	-18.000	.000	LRBF 19.2259 INCHES
10108	□	0-21 817C7	.000	.000	-18.000	.000	BRBF 37.9359 INCHES
10109	□	0-21 817C7	.000	.000	-18.000	.000	XHGP 43.5974 INCHES
10110	□	0-21 817C7	.000	.000	-18.000	.000	YHGP .0000 INCHES
10111	□	0-21 817C7	.000	.000	-18.000	.000	ZHGP 16.2000 INCHES
10112	□	0-21 817C7	.000	.000	-18.000	.000	SCALE .0403

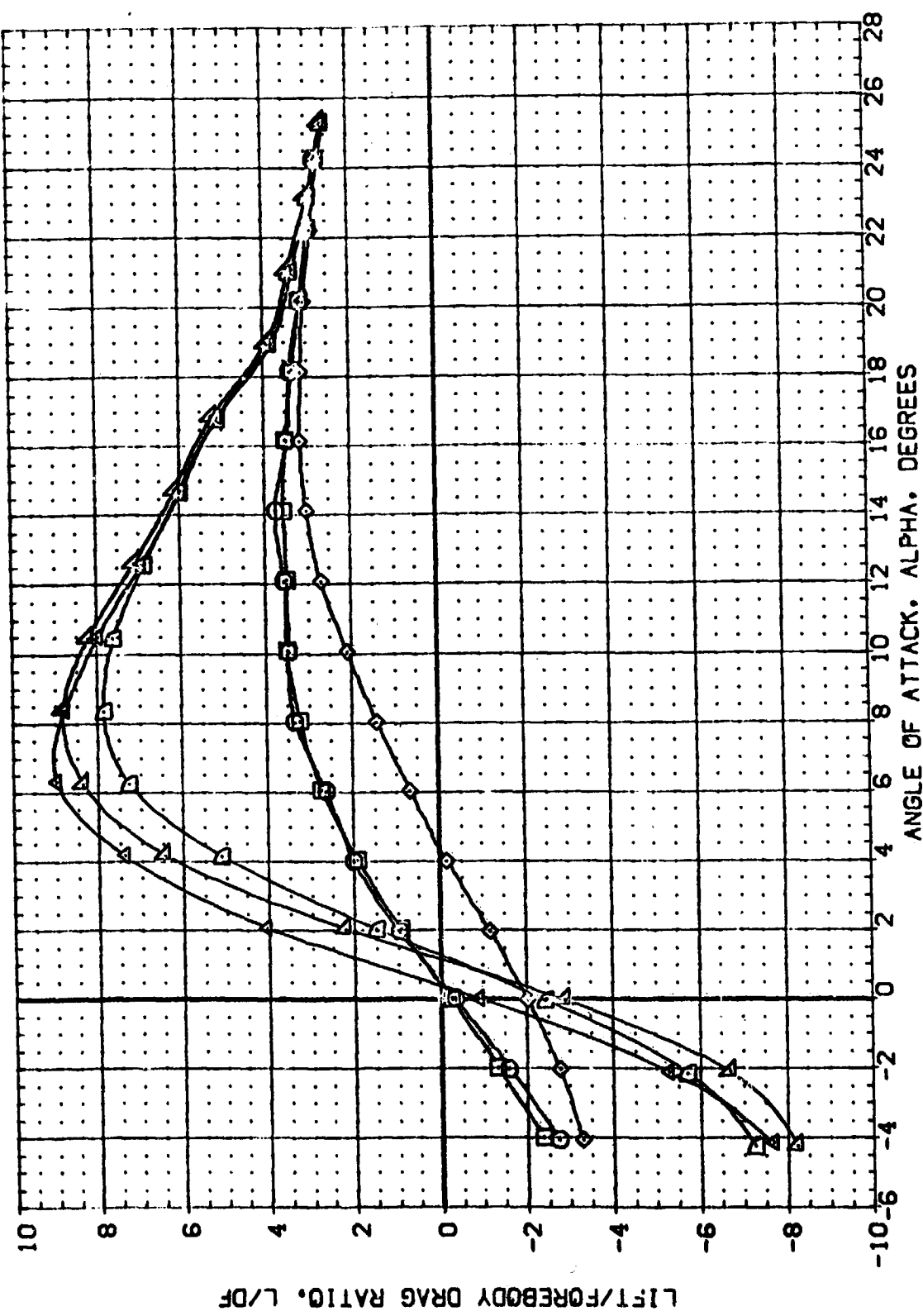


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

[A]MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	DELTA P	SPDRK	REFERENCE INFORMATION
(IDP102)	B17					SREF 4.4119 SQ.FT.
(IDP103)	CA21					LREF 19.2299 INCHES
(IDP104)	CA21					BREF 37.9359 INCHES
(IDP105)	CA21					XMRP 43.5974 INCHES
(IDP106)	CA21					YMRP 00.0000 INCHES
(IDP107)	CA21					ZMRP 16.2000 INCHES
(IDP108)	CA21					SCALE .0400

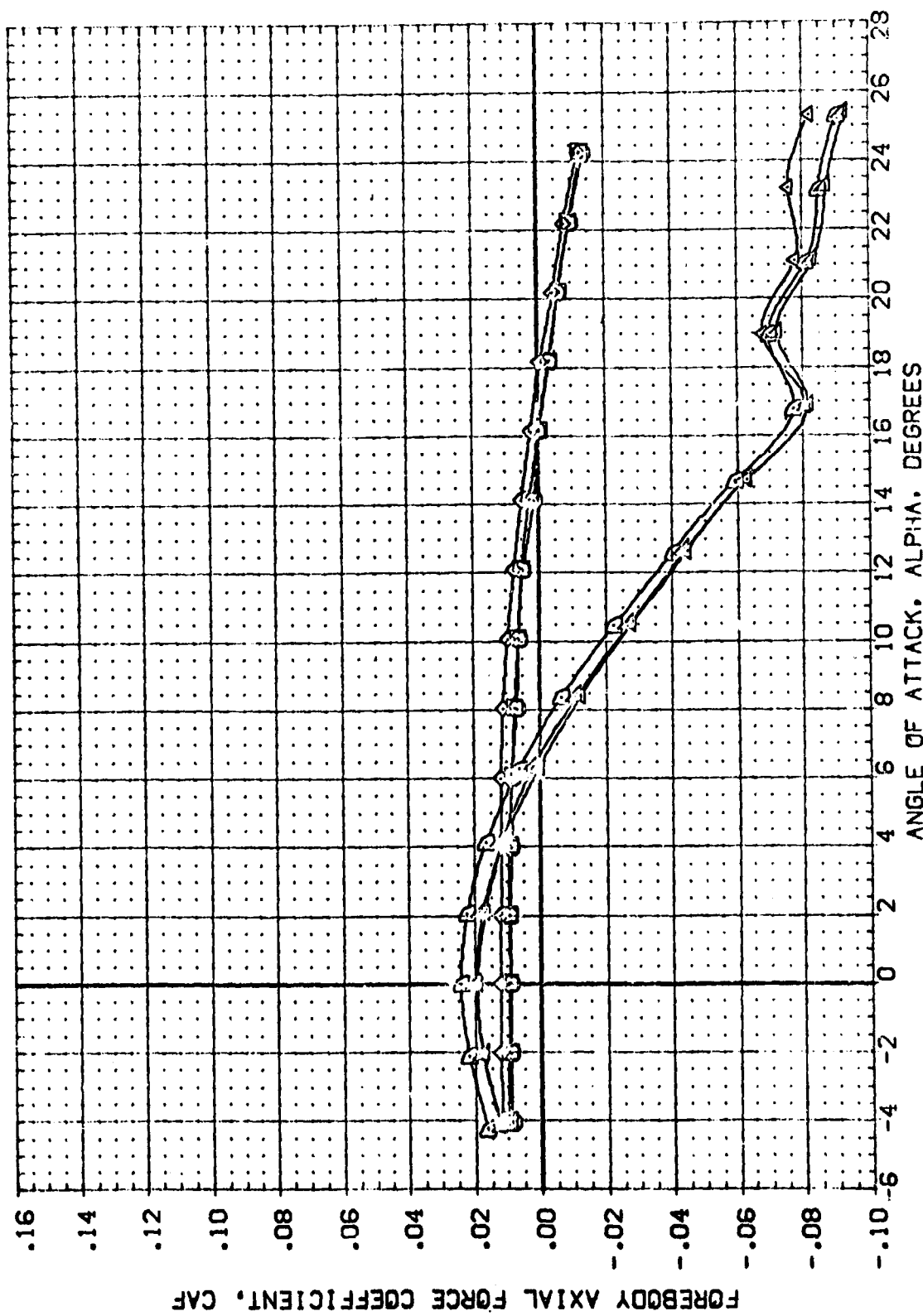


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

CADYACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPORBN	REFERENCE INFORMATION
[10102]	□	0A21 817					SREF 4.4119 50. FT.
[10107]	□	0A21 817C7					LREF 19.2299 INCHES
[10132]	□	0A21 817C7 F5					BREF 37.9359 INCHES
[10138]	□	0A21 817C7 M4F5					XREF 43.5974 INCHES
[10187]	□	0A21 817C7	.000	.000	-18.000	.000	YREF 16.2000 INCHES
[10188]	□	0A21 817C7	.000	.000	-18.000	.000	ZREF 16.2000 INCHES
[10189]	□	0A21 817C7	.000	.000	-18.000	.000	SCALE .0405

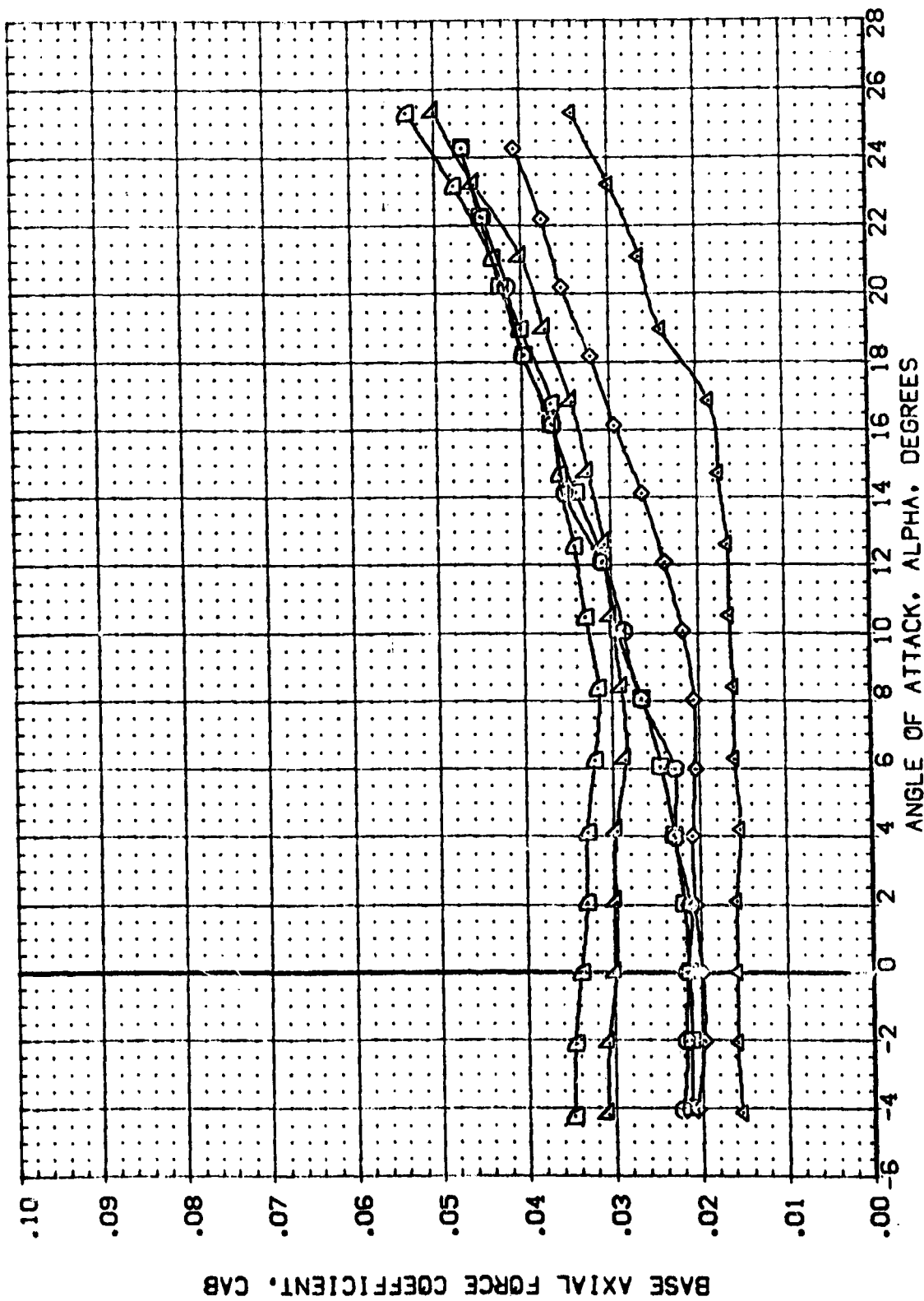


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION	
(DP102)	0A21 817					SREF	4.4119
(DP097)	0A21 817C7					LREF	19.2299
(DP092)	0A21 817C7			-18.000		BREF	37.9359
(DP082)	0A21 817C7	.000	.000	-18.000		XMRP	43.5974
(DP087)	0A21 817C7	.000	.000	-18.000	.000	YMRP	16.2000
(DP009)	0A21 817C7	.000	.000	-18.000	.000	ZMRP	16.2000
						SCALE	.0405

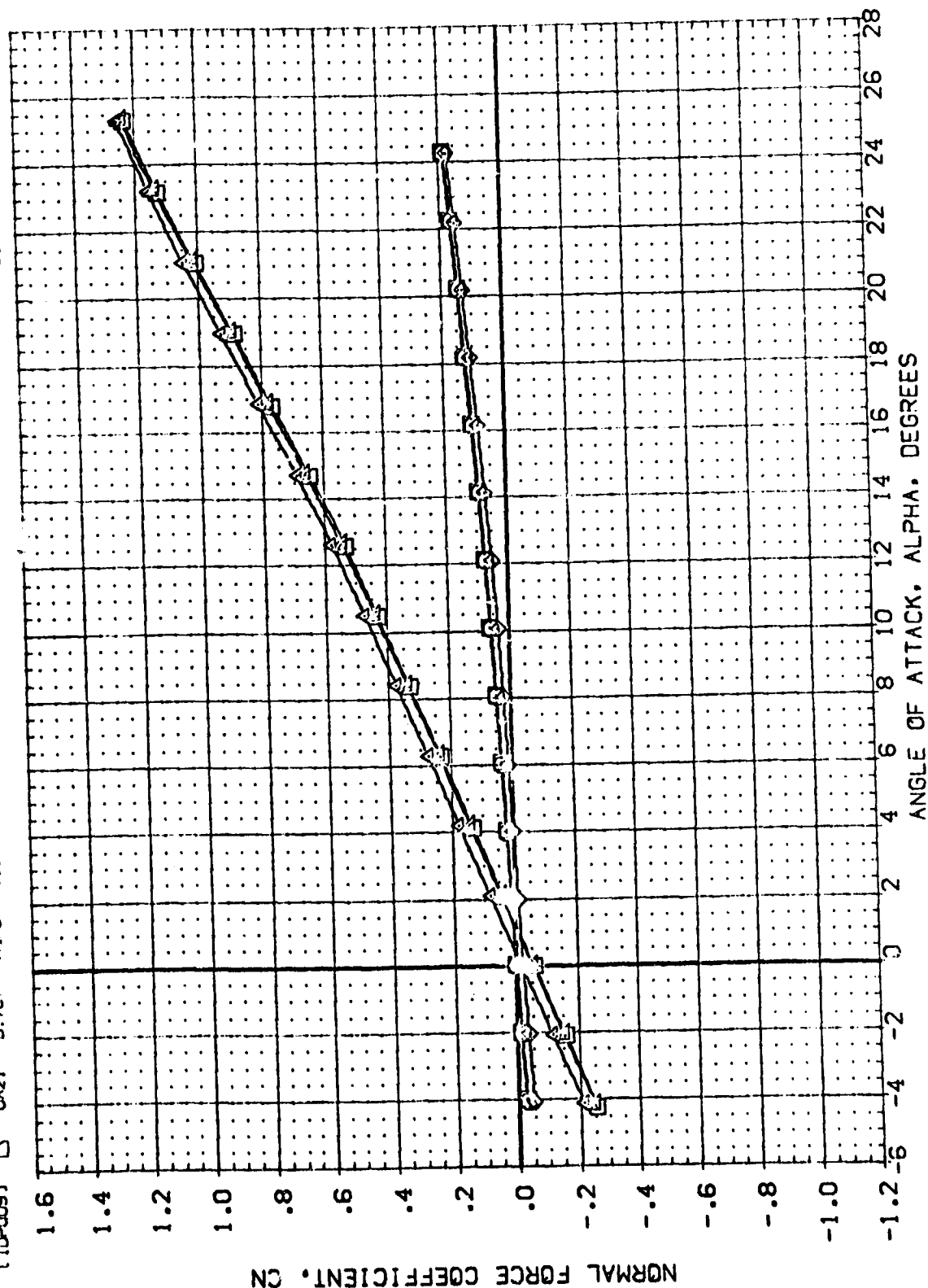


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

(A)MACH = .26



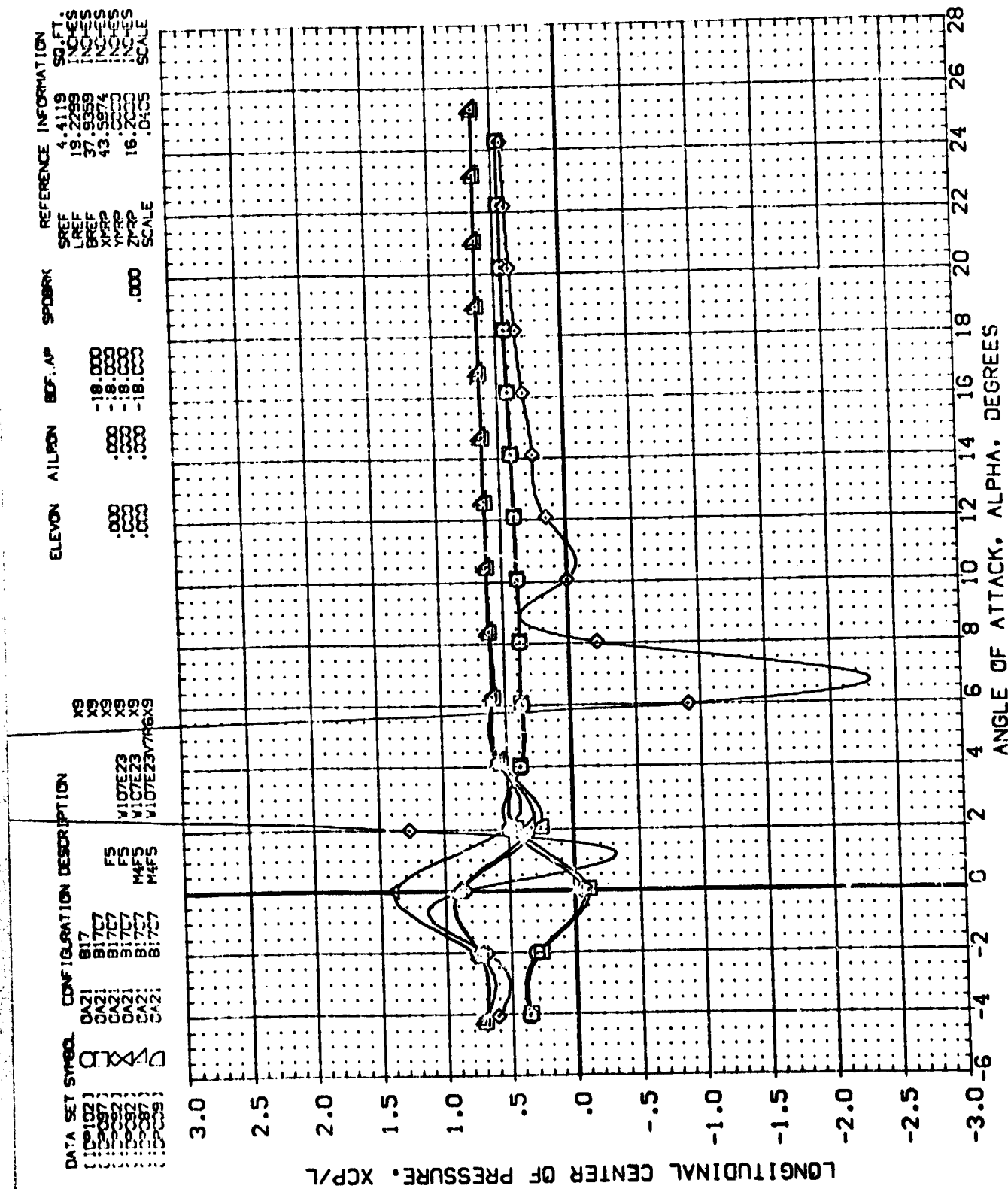


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

(A)MACH = .26

DATA SET SYMBO	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
CA21	B17					SREF 4.4119 SQ.FT.
CA21	B17C7					LREF 19.2289 INCHES
CA21	B17C7					BREF 37.9372 INCHES
CA21	B17C7					XMRP 43.5974 INCHES
CA21	B17C7					YMRP .0000 INCHES
CA21	B17C7					ZMRP 15.2000 INCHES
CA21	B17C7					SCALE .0405

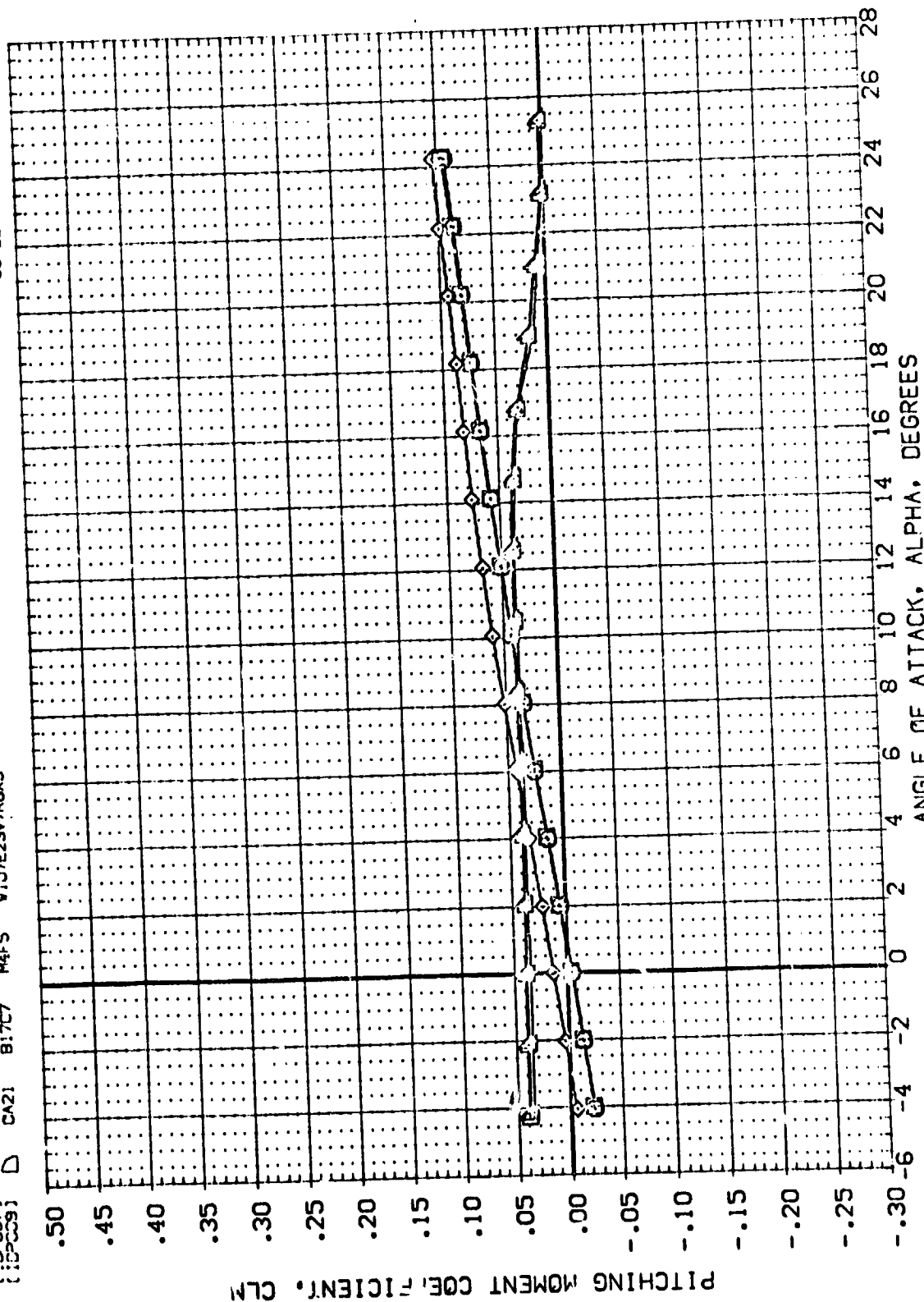


FIGURE 4 LONGITUDINAL CONFIGURATION COMPONENT EFFECTS

(A) MACH = .26

DATA SET SYMBOL: 0421 81727 MAPS VICTORY/MAKES  
 (IDP149) (IDP001)

REF. NO. 0  
 ELEV. 0.000  
 1.120  
 1.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ. FT.  
 LREF 19.2289  
 BREF 37.5359  
 XREF 43.5874  
 YREF 16.2003  
 ZREF 16.2003  
 SCALE .0435

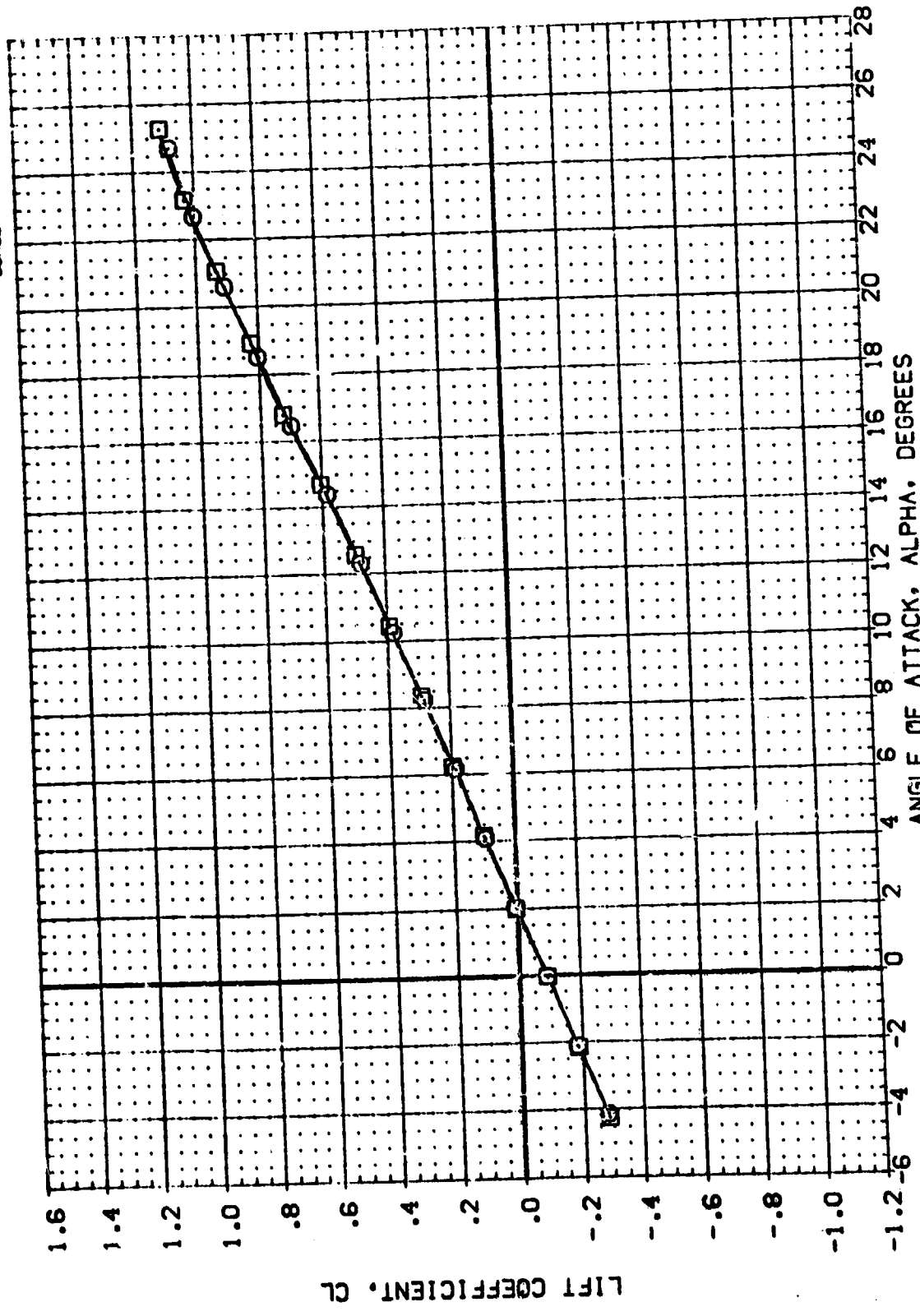


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10001) 021 B17C7 M4FS V107E23V7R6X9  
 (10001) 022 B17C7 M4FS V107E23V7R6X9

RN/L MACH 0 ELEVON  
 1.150 .165 40.000  
 1.850 .260 100.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5874 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

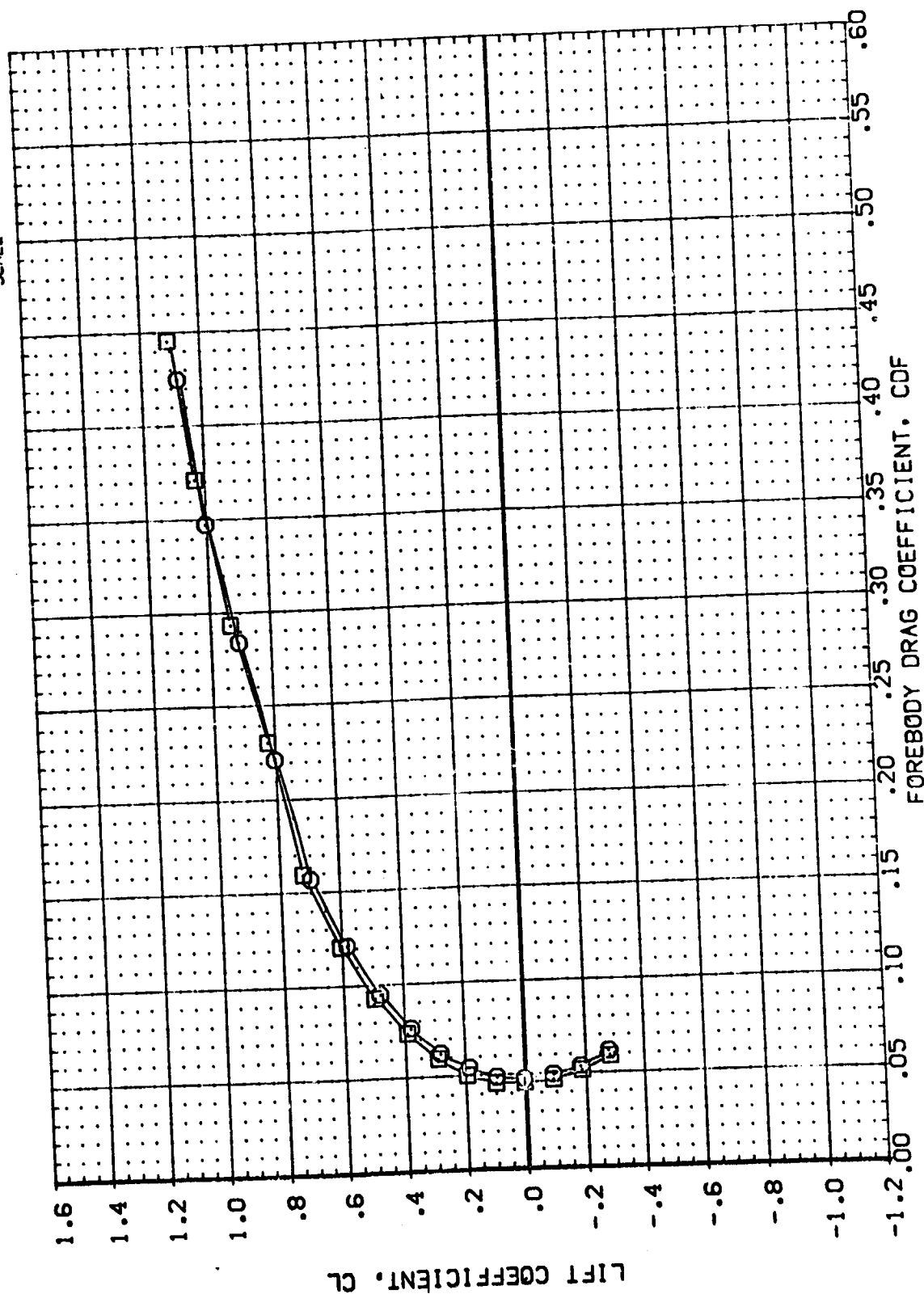


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A) MACH = .6

DATA SET SYMBOL: 8  
 CONFIGURATION DESCRIPTION:  
 0A21 817C7 M4F5 V107E23V7R6X9  
 0A21 817C7 M4F5 V107E23V7R6X9

REF: 4.4119 SC.FT.  
 LREF: 19.2288 INCHES  
 XREF: 37.9359 INCHES  
 YREF: 43.9574 INCHES  
 ZREF: .0000 INCHES  
 SCALE: 16.2000 INCHES  
 SCALE: .0405

MACH: 0  
 ELEVON: .000  
 .000

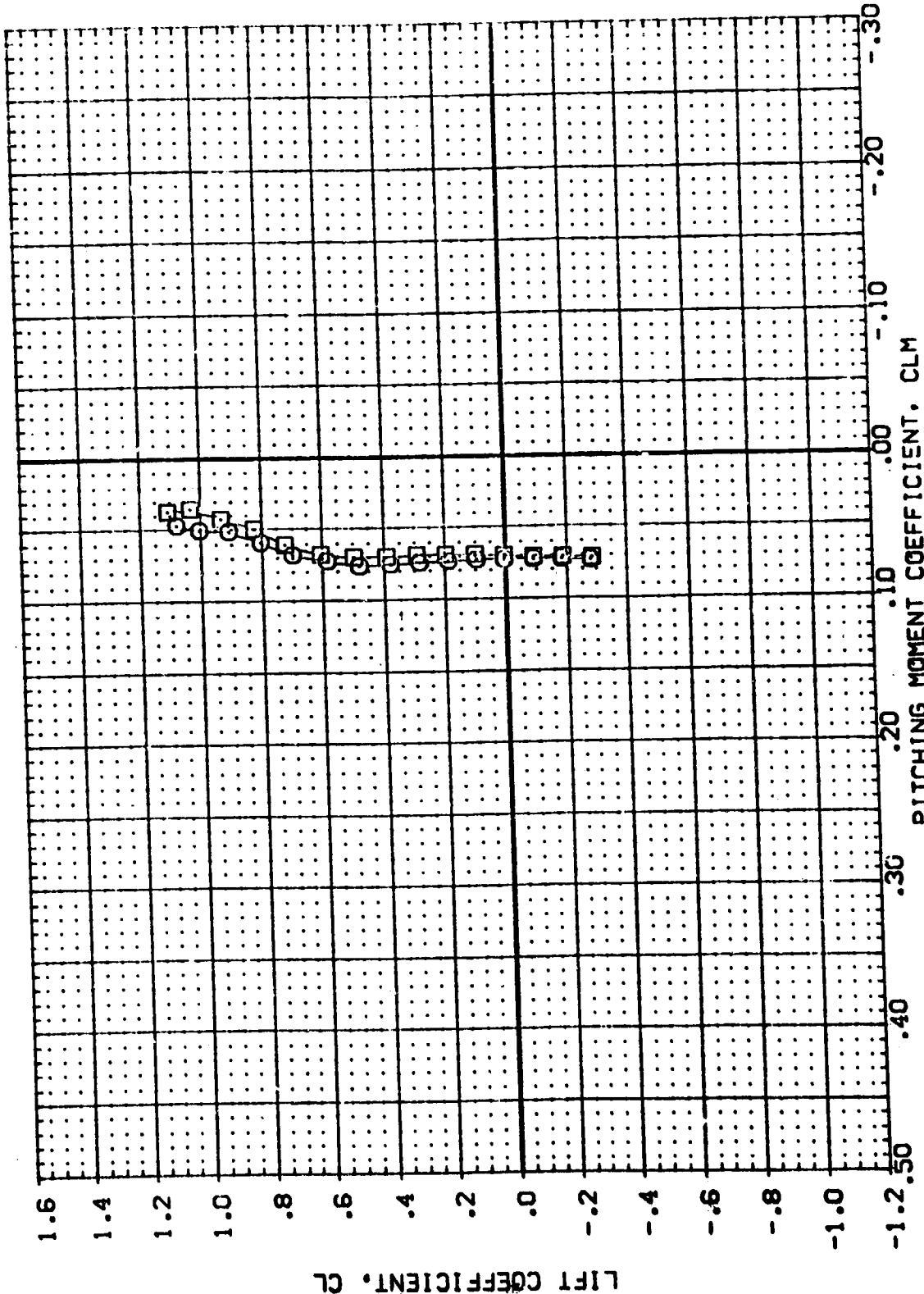


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A)MACH = .16

DATA SET SYMBOL: 0A21 917C7 MAFS V107E23V7R6X9  
 (IDP149) 0A21 817C7 MAFS V107E23V7R6X9  
 (IDP001)

REFERENCE INFORMATION  
 SREF 4.4119 90.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 10.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE 10405

-RM/L MACH 0 ELEVON  
 1.150 .165 40.000  
 1.850 .260 100.000

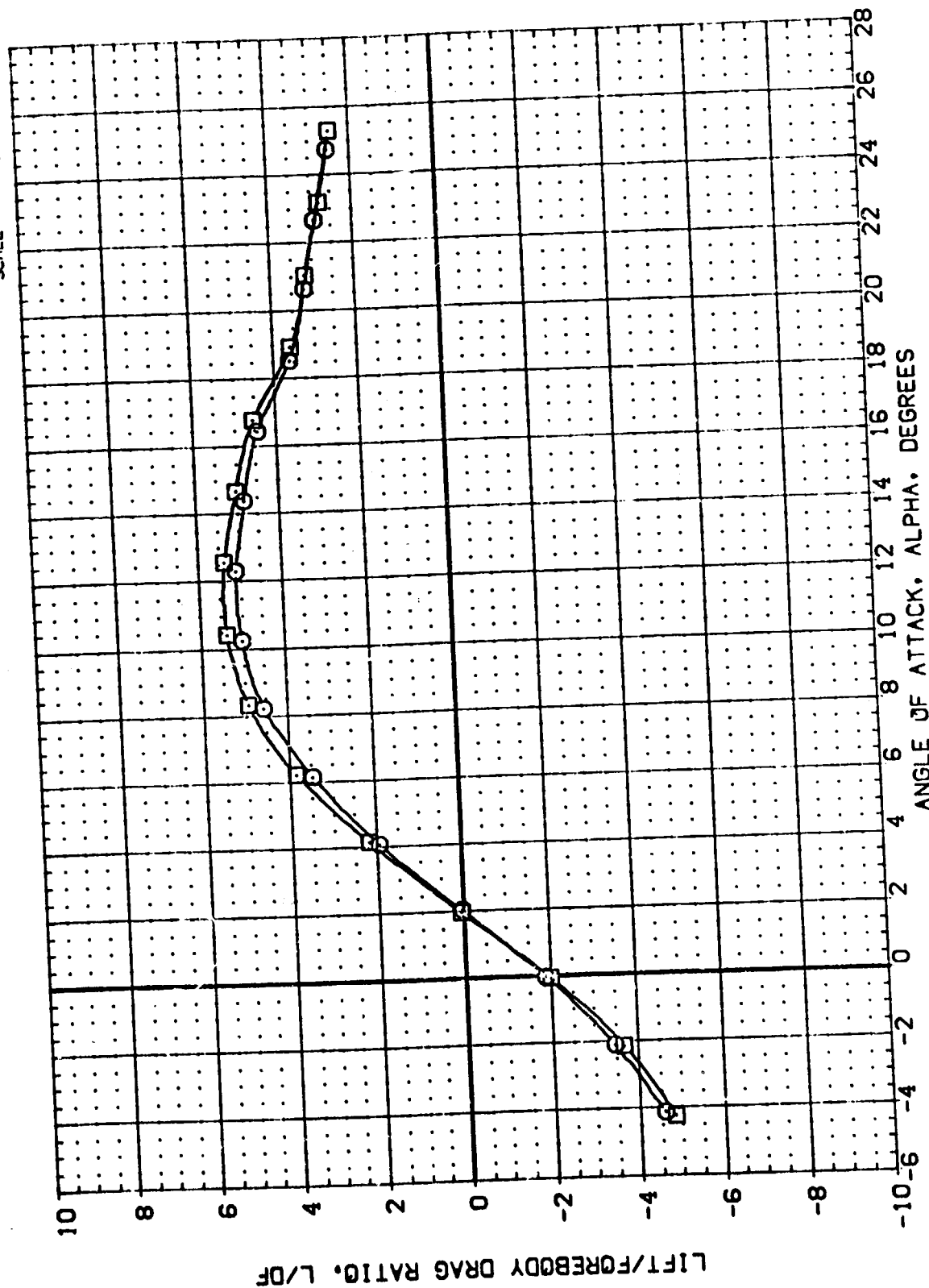


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A) MACH = .16

DATA SET SYMB. 0A21 817C7 M4FS V107E23V7M6X9  
 0A21 817C7 M4FS V107E23V7M6X9  
 0A21 817C7 M4FS V107E23V7M6X9

REFERENCE INFORMATION:  
 SREF 4.4119 SQ.FT.  
 LREF 19.2289 INCHES  
 BREF 37.5399 INCHES  
 YREF 43.5574 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

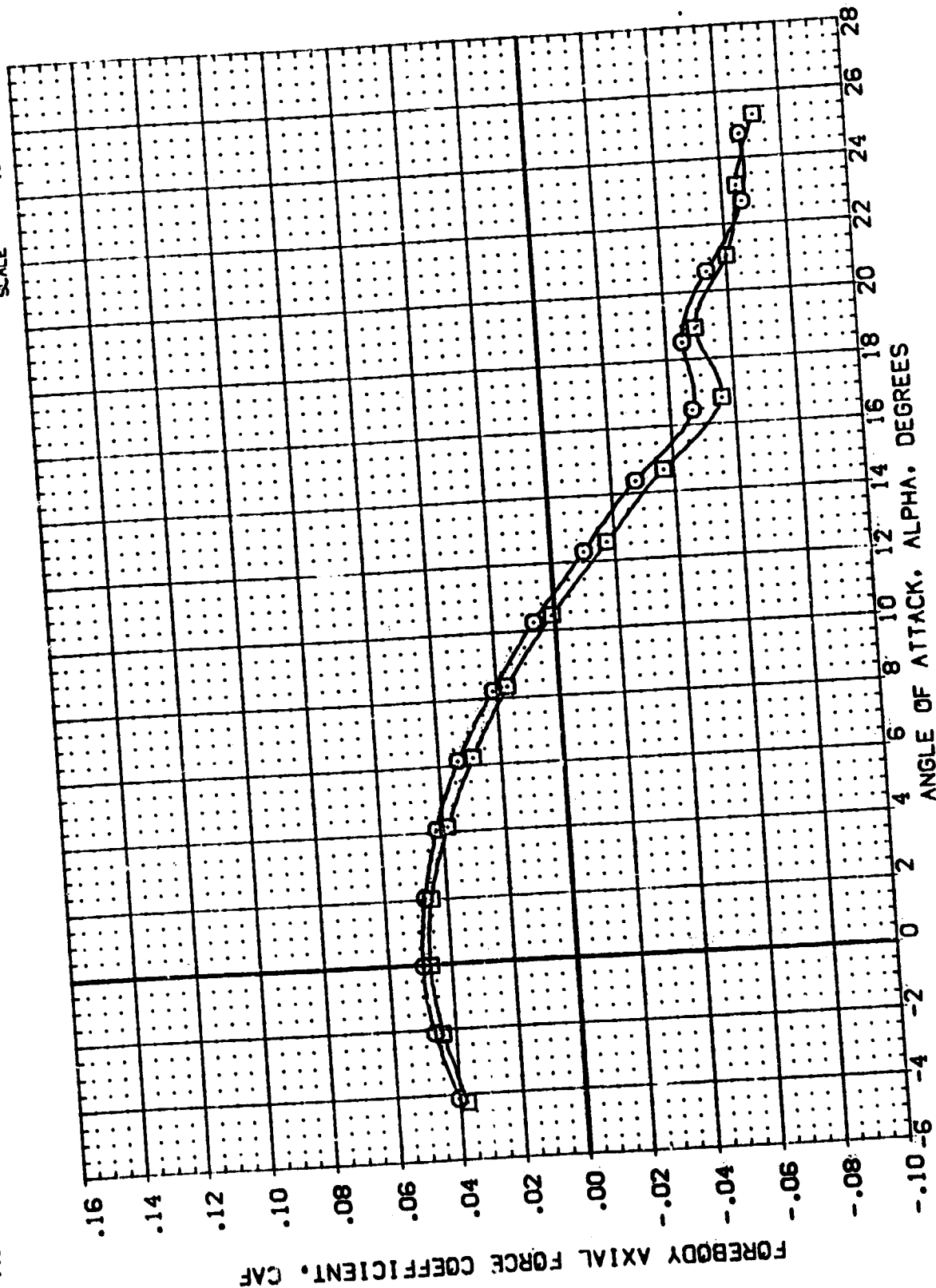


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (1D149) □ CA21 B17C7 M4FS V107E23V7R6X8  
 (1D001) □ CA2: B17C7 M4FS V107E23V7R6X8

RV/L MACH Q ELEVON REFERENCE INFORMATION SQ.FT.  
 1.150 .165 40.000 SREF 4.4119 INCHES  
 1.850 .260 100.000 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 16.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

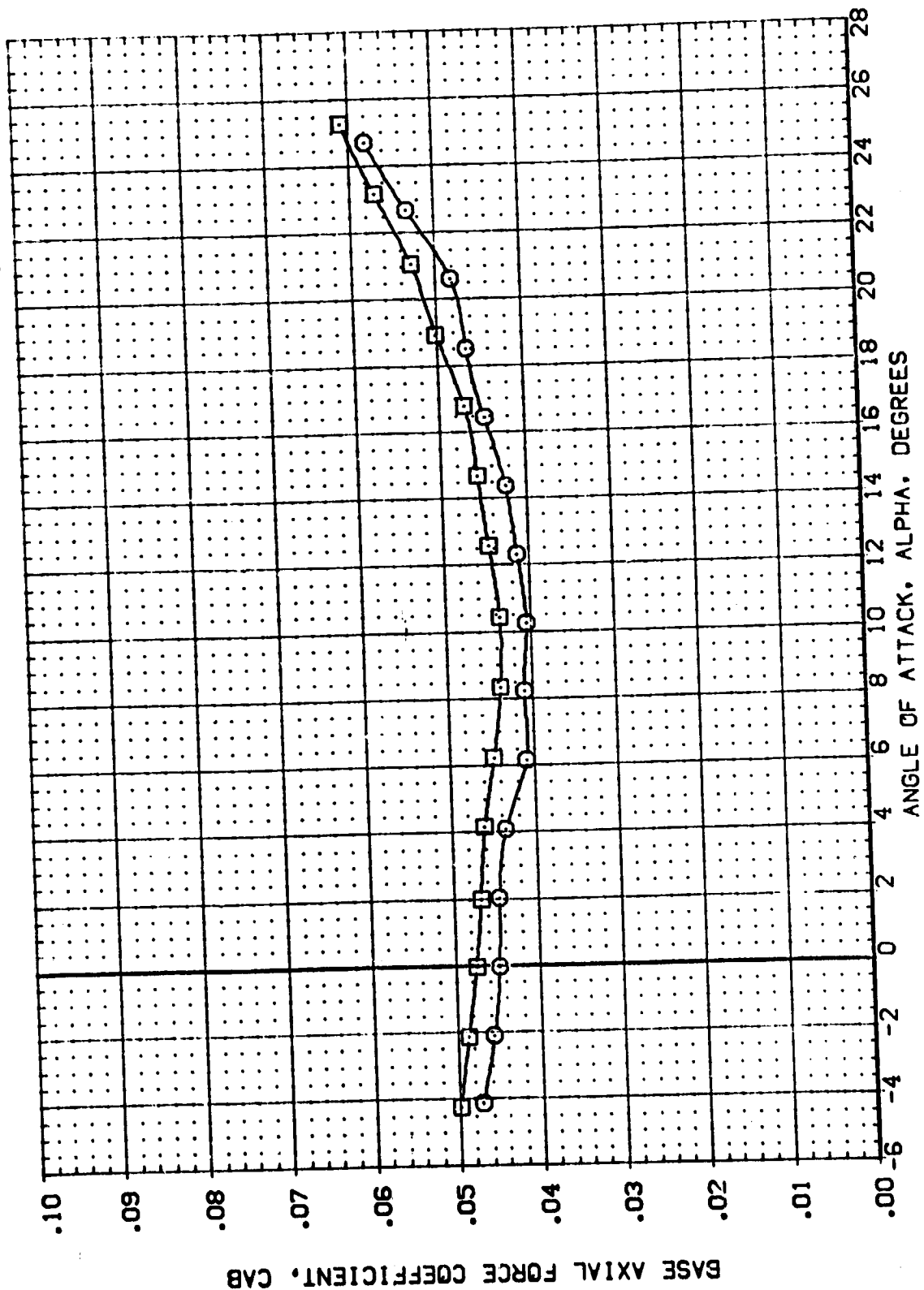


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A)MACH = .16



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	RV/L	MACH	Q	ELEVON	REFERENCE INFORMATION
(12P149)	0A21 B17C7 M4FS V107E23V7R0X8	1.150	.185	40.000	.000	SREF 4.4119 SQ.FT.
(12P001)	0A21 B17C7 M4FS V107E23V7R0X8	1.850	.260	100.000	.000	LREF 19.2259 INCHES
						BREF 37.9359 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

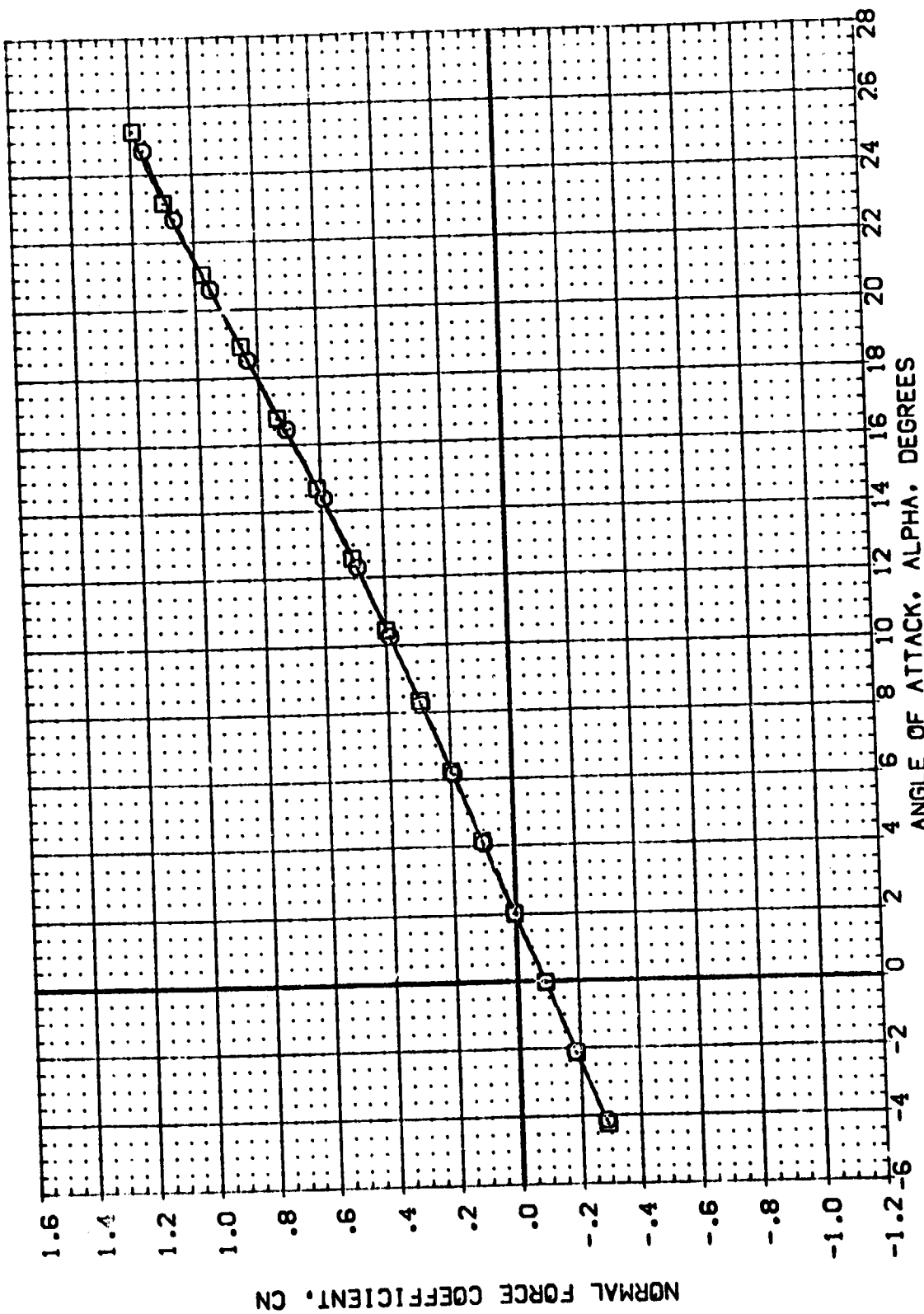


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A) MACH = .16

DATA SET SYMBOL: 0A21 B17C7 M4FS V107E23V7R6X9  
 (1DP149) (1DP001)

CONFIGURATION DESCRIPTION: 0A21 B17C7 M4FS V107E23V7R6X9  
 (1DP149) (1DP001)

RN/L: 1.150  
 MACH: .165  
 ELEVON: 0  
 40.000  
 100.000

REFERENCE INFORMATION: SQ. FT. 4.4119  
 SREF: 19.2299  
 LREF: 37.9359  
 BREF: 43.5974  
 XMRP: .0000  
 YMRP: 16.2000  
 ZMRP: .0405  
 SCALE: INCHES

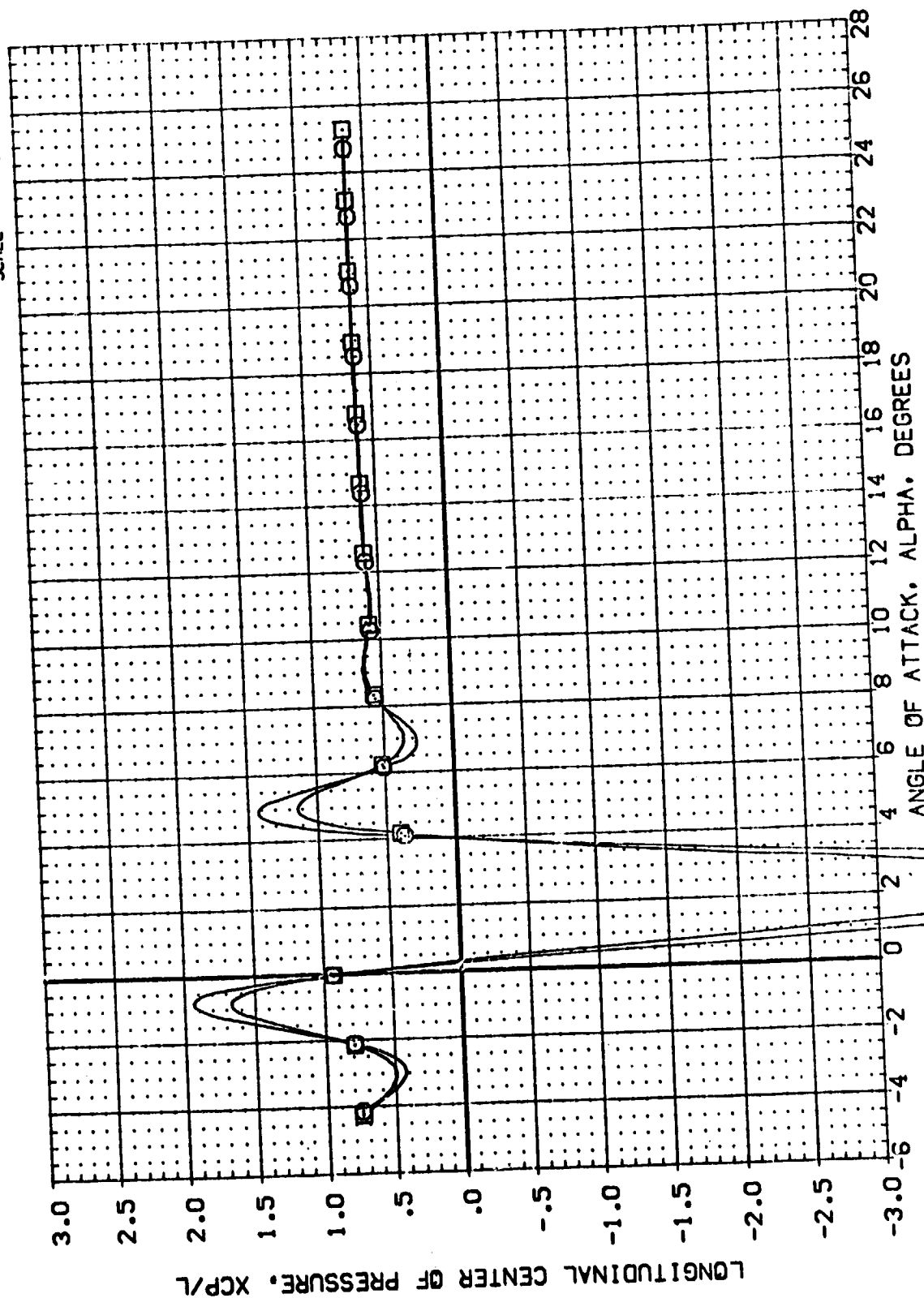


FIGURE 5 REYNOLDS NUMBER EFFECTS

CAYMACH = .16

DATA SET SYMBOL: 817C7 817C7 M4F5 V107E23V7R6X9  
 (1)P149) (1)PC11) 817C7 817C7 M4F5 V107E23V7R6X9

RV/L: 1.150  
 1.650  
 MACH: 0  
 0.165 40.000  
 0.260 100.000  
 ELEVON: 0.000  
 0.000

REFERENCE INFORMATION:  
 SQ.FT. 4.4119  
 INCHES 19.2289  
 SQ.FT. 37.9289  
 INCHES 43.5974  
 XREF 0.000  
 YREF 0.000  
 ZREF 16.2000  
 SCALE 0.0405

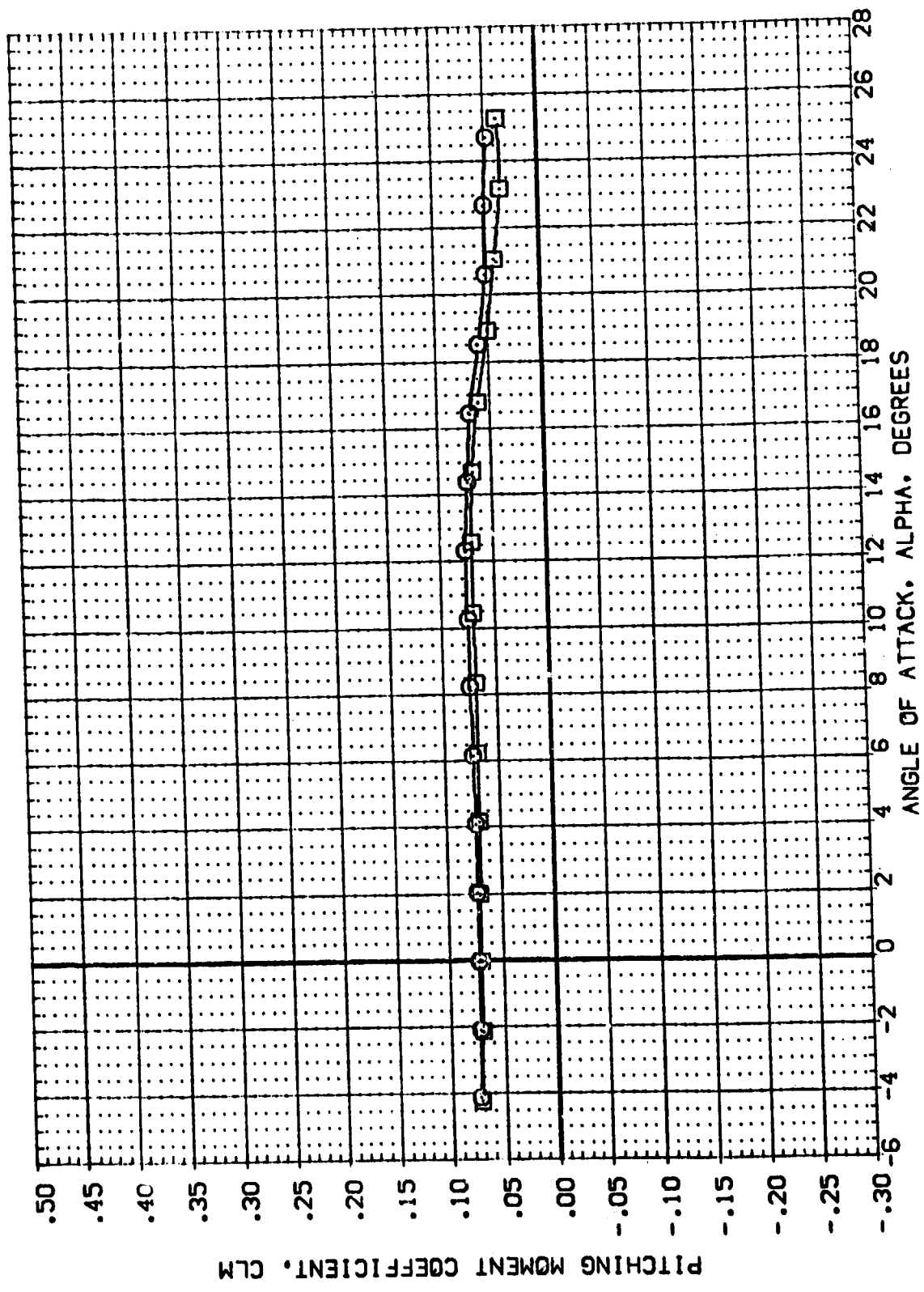


FIGURE 5 REYNOLDS NUMBER EFFECTS

(A)MACH = .16

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP35]	CA21	B17C7 MAFS	-15.000	.000	-18.000	55.000	SREF 4.4119 CO.FT.
[DP34]	CA21	B17C7 MAFS	-5.000	.000	-18.000	55.000	LREF 19.2289 INCHES
[DP33]	CA21	B17C7 MAFS	.000	.000	-18.000	55.000	BREF 37.5359 INCHES
[DP32]	CA21	B17C7 MAFS	5.000	.000	-18.000	55.000	XREF 43.5574 INCHES
[DP31]	CA21	B17C7 MAFS	10.000	.000	-18.000	55.000	YREF 16.000 INCHES
							ZREF 16.200 INCHES
							SCALE .0405

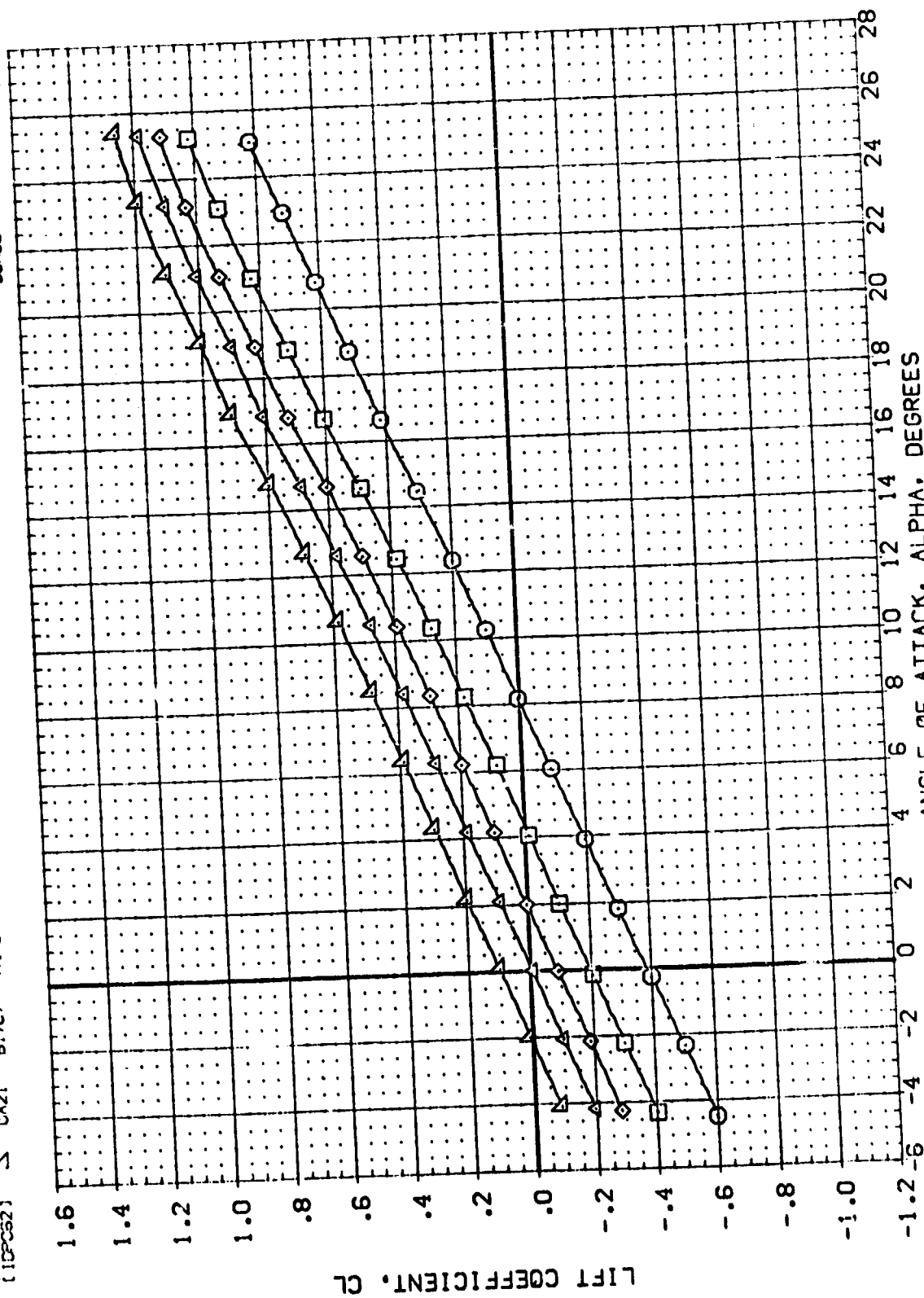


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(MACH = .25)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPORRK	REFERENCE INFORMATION
[DPG55]	0A21 B17C7 M4F5 V:07E23V7R6X9	-15.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
[DPG56]	0A21 B17C7 M4F5 V:07E23V7R6X9	-5.000	.000	-18.000	55.000	LREF 19.2299 INCHES
[DPG57]	0A21 B17C7 M4F5 V:07E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
[DPG58]	0A21 B17C7 M4F5 V:07E23V7R6X9	5.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
[DPG59]	0A21 B17C7 M4F5 V:07E23V7R6X9	10.000	.000	-18.000	55.000	YMRP 0.0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

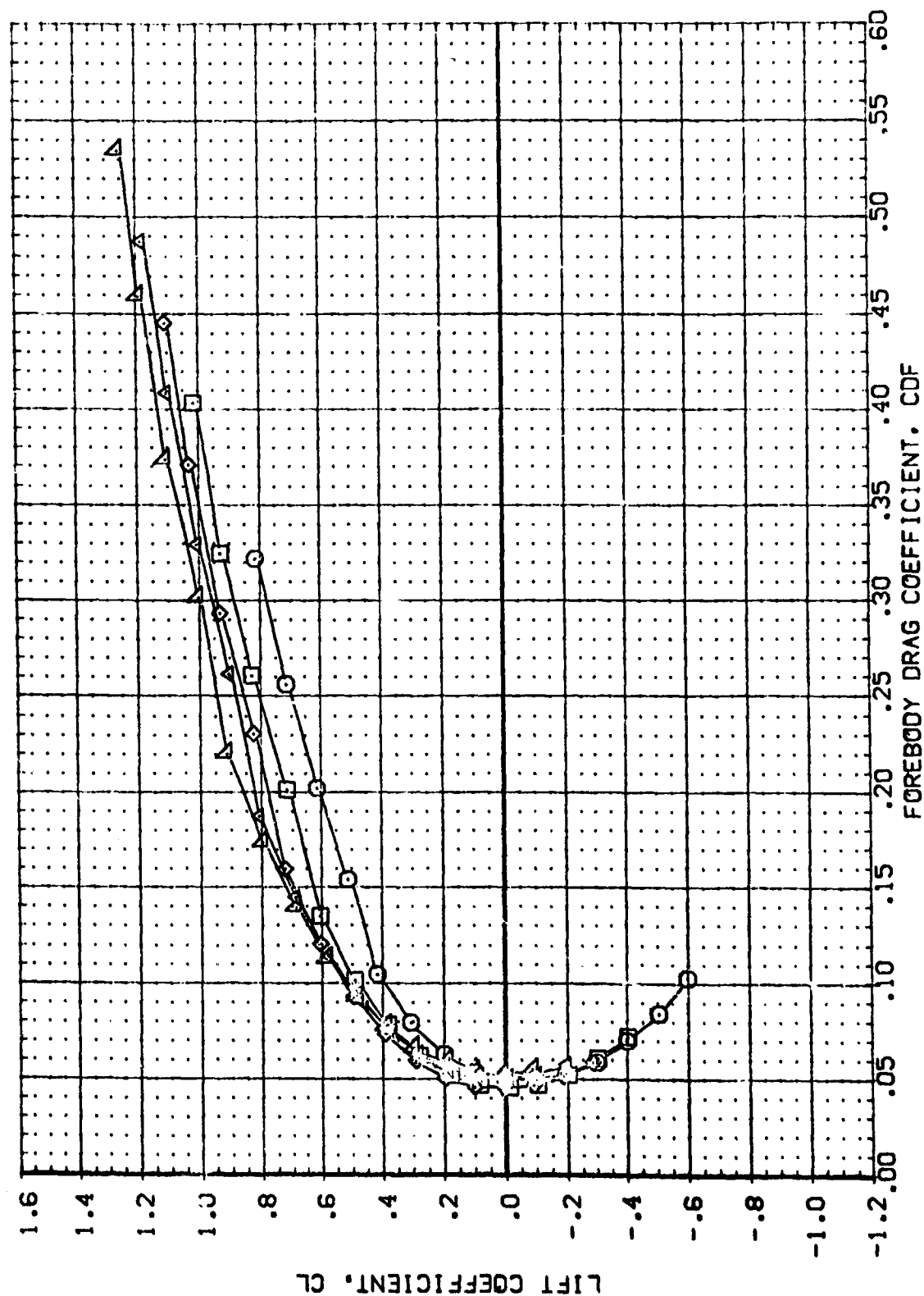


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

Q121	B17C7	M4F5	V107E23V7R6X9
Q121	B17C7	M4F5	V107E23V7R6X9
Q121	B17C7	M4F5	V107E23V7R6X9
Q121	B17C7	M4F5	V107E23V7R6X9
Q121	B17C7	M4F5	V107E23V7R6X9
Q121	B17C7	M4F5	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.4119	50. FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	0.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ELEVON AILERON BOFLAP SPDRK

-15.000	.000	-18.000	55.000
-5.000	.000	-8.000	55.000
5.000	.000	-8.000	55.000
10.000	.000	-18.000	55.000

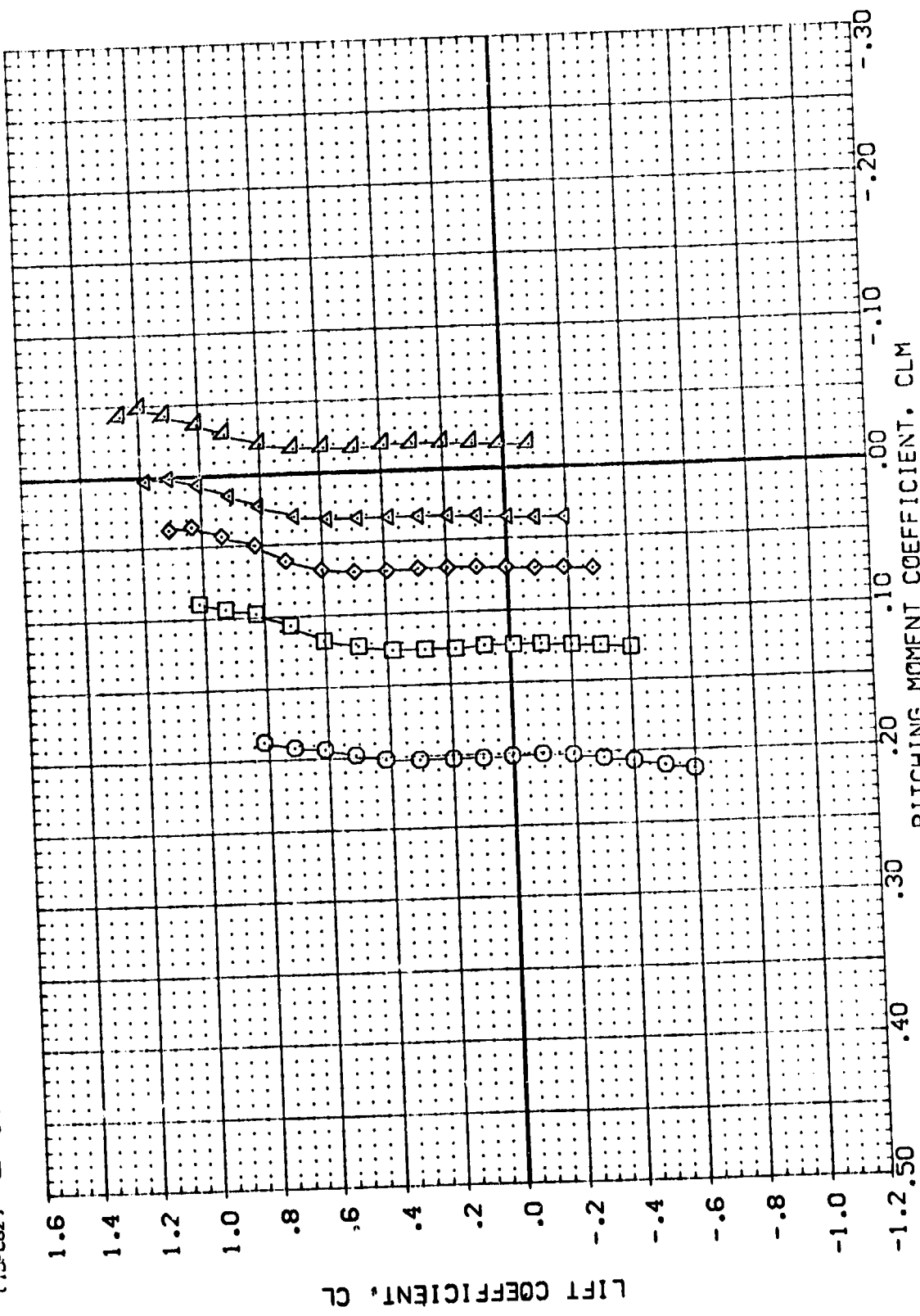


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

DATA SET SYMBOL  
 (12065)  
 (12066)  
 (12067)  
 (12068)  
 (12069)

CONFIGURATION DESCRIPTION  
 MAFS VICTE23VTR6V9  
 MAFS VICTE23VTR6V9  
 MAFS VICTE23VTR6V9  
 MAFS VICTE23VTR6V9  
 MAFS VICTE23VTR6V9  
 MAFS VICTE23VTR6V9

ELEVON  
 -15.000  
 -5.000  
 5.000  
 10.000

AIRLON  
 .000  
 .000  
 .000  
 .000

BOFLAP  
 -18.000  
 -18.000  
 -18.000  
 -18.000

SPDBRK  
 55.000  
 55.000  
 55.000  
 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 16.2000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

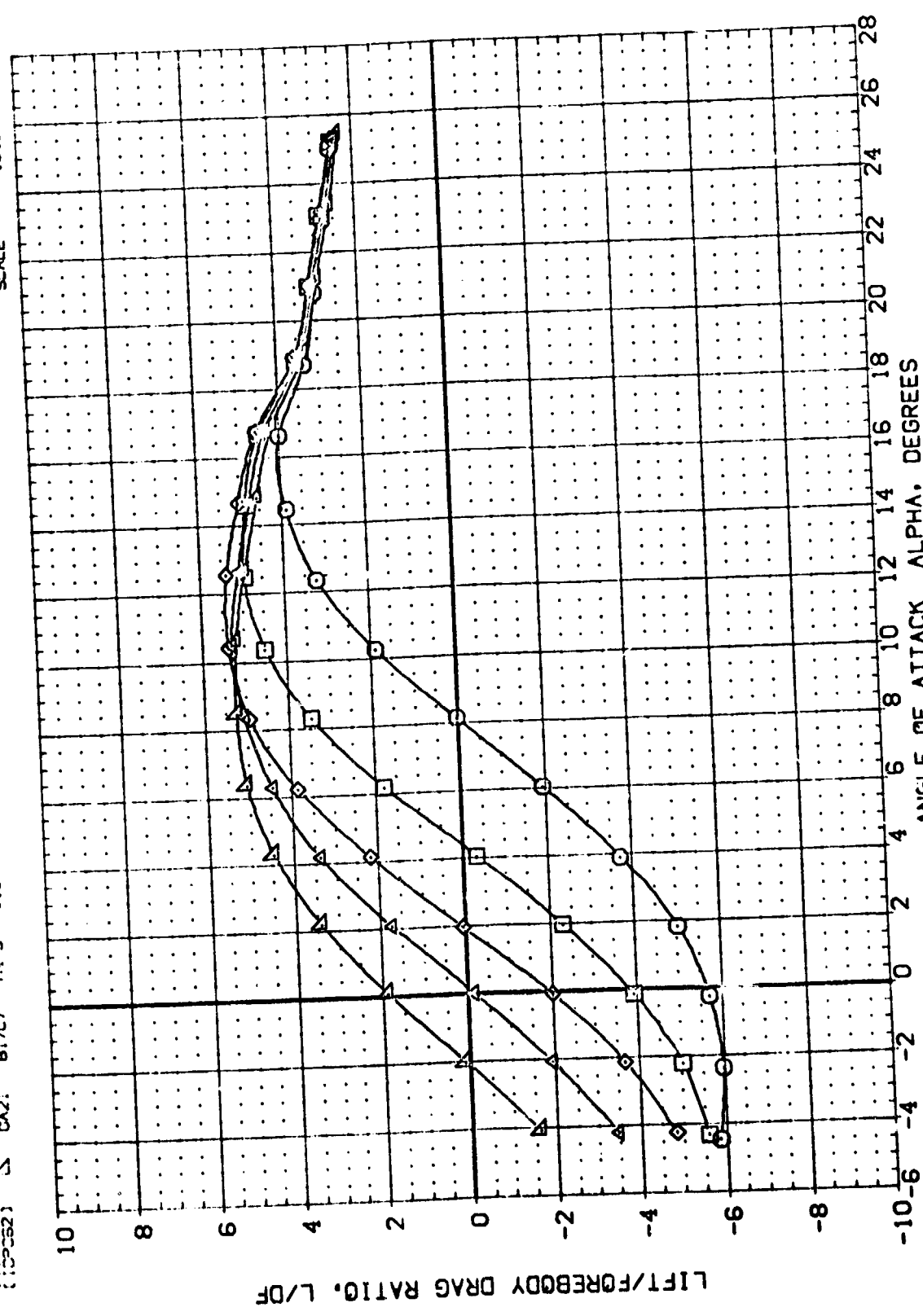


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPRBRK	REFERENCE INFORMATION
(IDP065)	0A21 B17C7 M4FS V107E23V7RS/3	-15.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(IDP064)	0A21 B17C7 M4FS V107E23V7RS/3	-5.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(IDP061)	0A21 B17C7 M4FS V107E23V7RS/3	5.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(IDP062)	0A21 B17C7 M4FS V107E23V7RS/3	10.000	.000	-18.000	55.000	XPRP 43.5974 INCHES
						YPRP .0000 INCHES
						ZPRP 16.2000 INCHES
						SCALE .0405

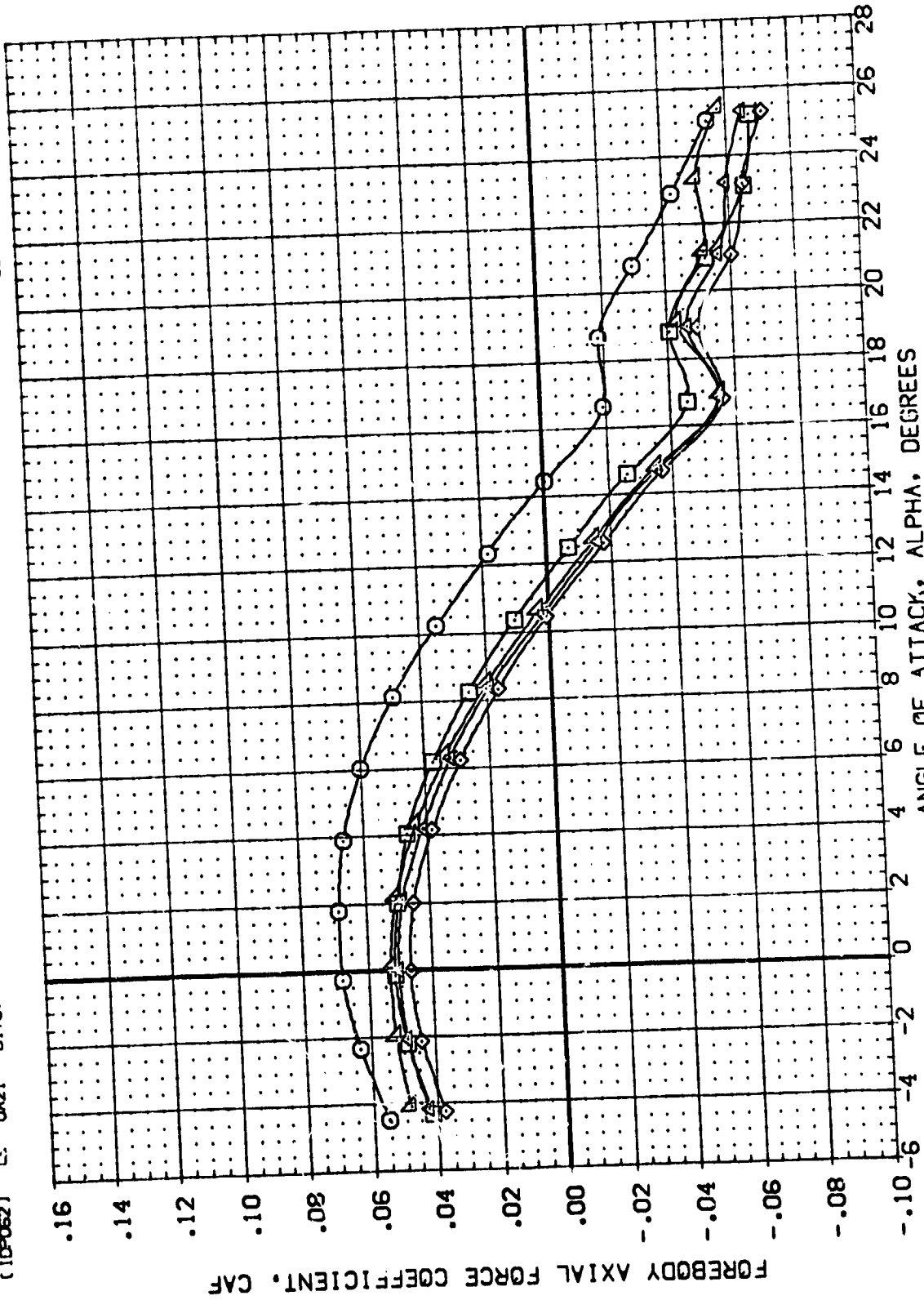


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	SPINFLAP	SPINFLAP	REFERENCE INFORMATION
(IDP065)	0A21 817C7 MAF5 V107E23V7R6X3	-15.000	.000	-18.000	50.000	4.4119 50.000
(IDP064)	0A21 817C7 MAF5 V107E23V7R6X3	-5.000	.000	-18.000	50.000	19.2289 50.000
(IDP001)	0A21 817C7 MAF5 V107E23V7R6X3	5.000	.000	-18.000	50.000	37.9359 50.000
(IDP062)	0A21 817C7 MAF5 V107E23V7R6X3	10.000	.000	-18.000	50.000	43.5874 50.000
						16.2000 50.000
						SCALE .0405

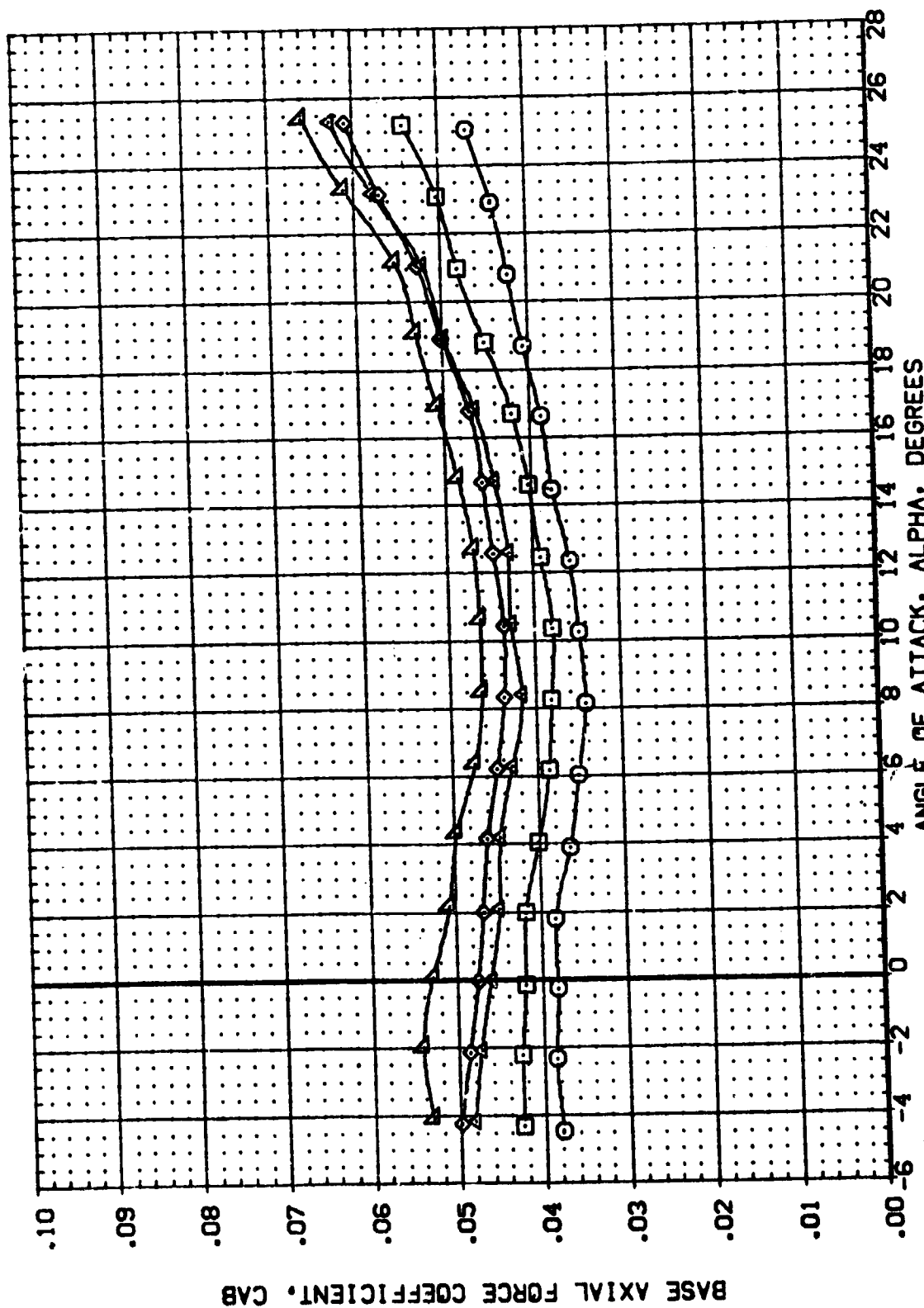


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)MACH = .26

REFERENCE INFORMATION:  
 SREF 4.4119 SQ. FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 YARP 43.5974 INCHES  
 YMRP 16.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

ELEVON AILRON BOFLAP SPOBRK  
 -15.000 .000 -18.000 55.000  
 -5.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000  
 5.000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

DATA SET SYMOL CONFIGURATION DESCRIPTION  
 (IDP061) 0A21 B17C7 M4FS V107E23V7R6X9  
 (IDP064) 0A21 B17C7 M4FS V107E23V7R6X9  
 (IDP001) 0A21 B17C7 M4FS V107E23V7R6X9  
 (IDP061) 0A21 B17C7 M4FS V107E23V7R6X9  
 (IDP062) 0A21 B17C7 M4FS V107E23V7R6X9

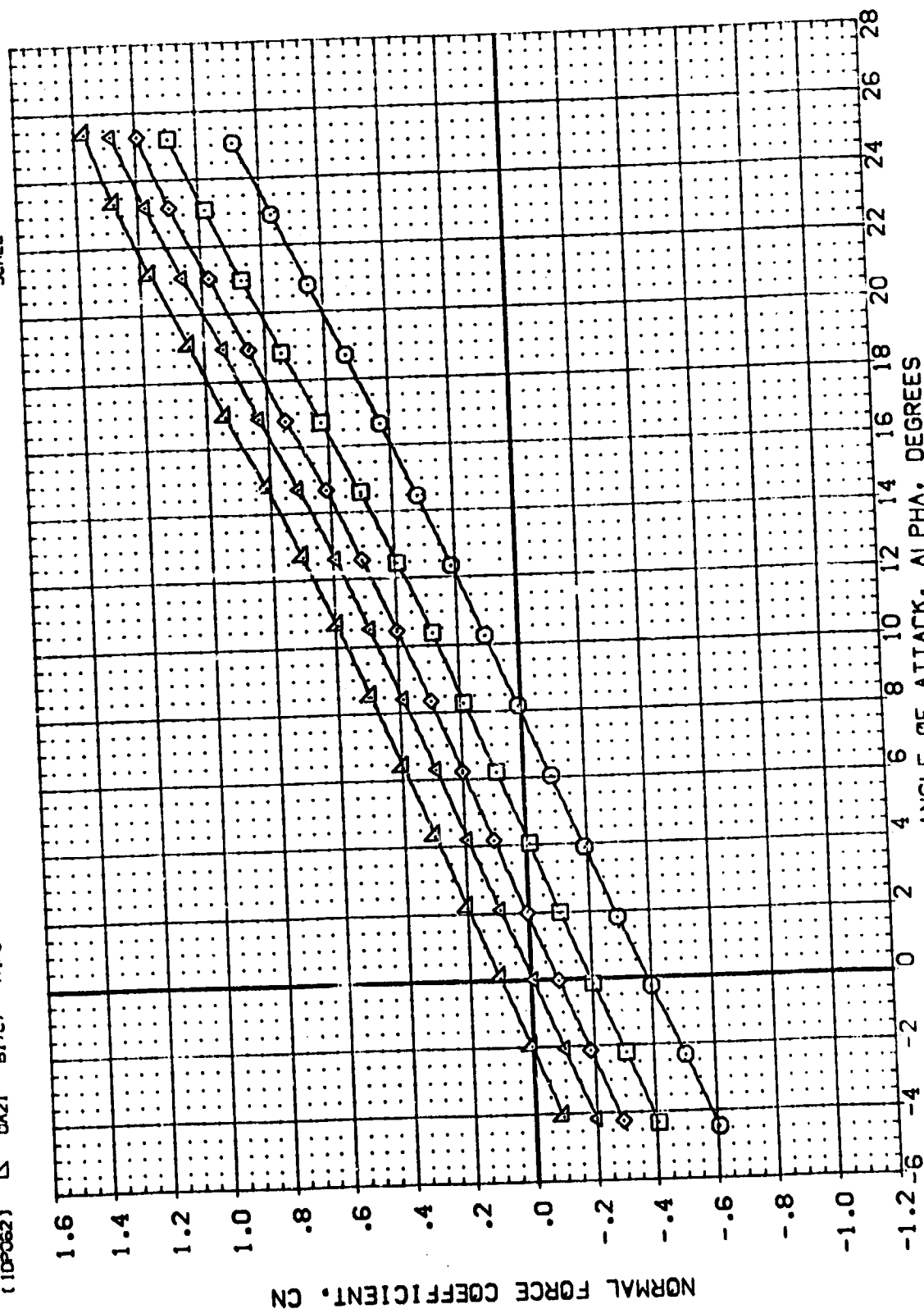


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)YACH = .25

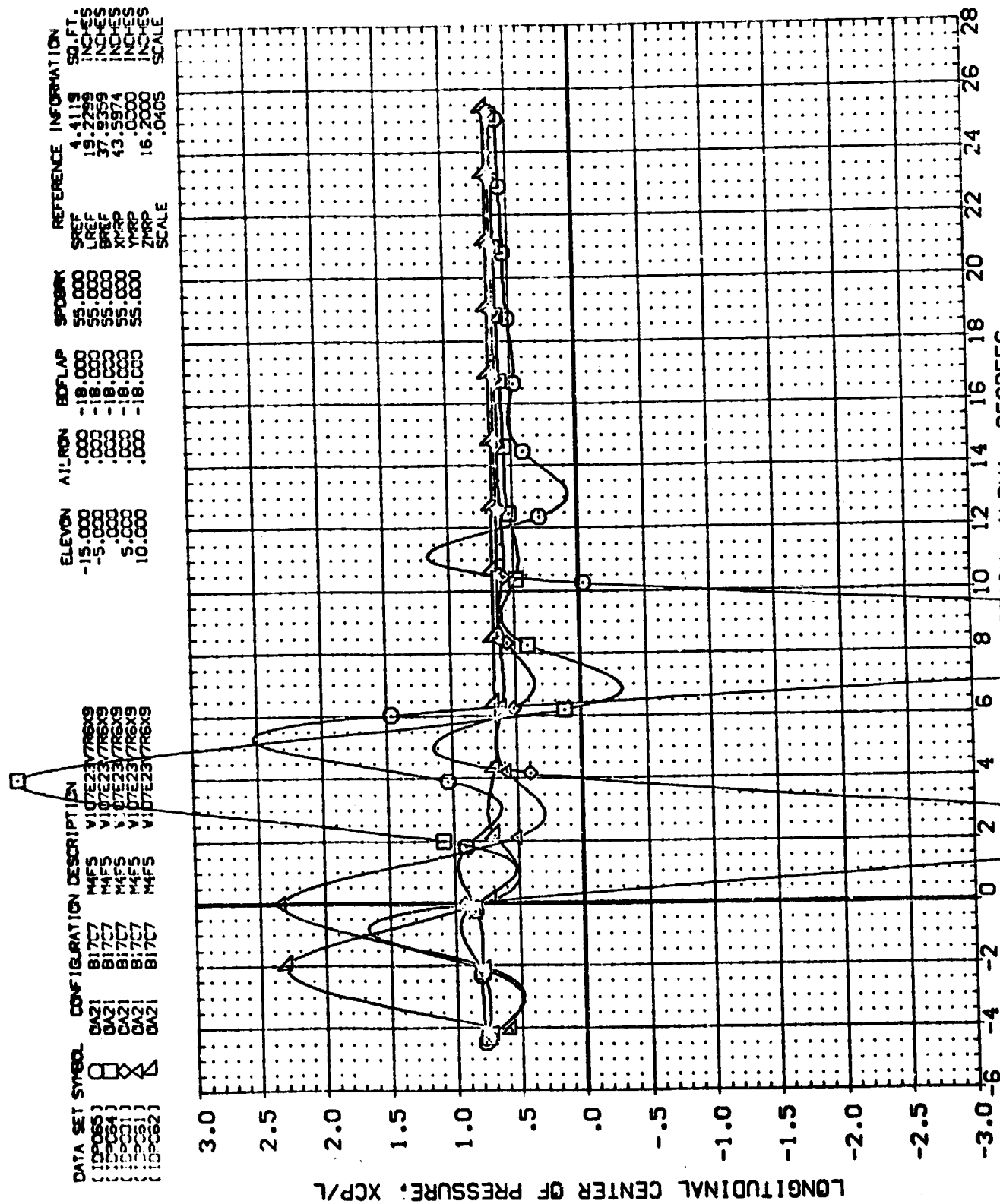


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)	0A21 B17C7 M4F5 V107E23V7R6X9	-15.000	.000	-18.000	55.000	SREF 4.4119 50.FT. INCHES
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)	0A21 B17C7 M4F5 V107E23V7R6X9	-5.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)	0A21 B17C7 M4F5 V107E23V7R6X9	5.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)	0A21 B17C7 M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	YMRP .0000 INCHES
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)	0A21 B17C7 M4F5 V107E23V7R6X9					ZMRP 16.2000 INCHES
						SCALE .0405

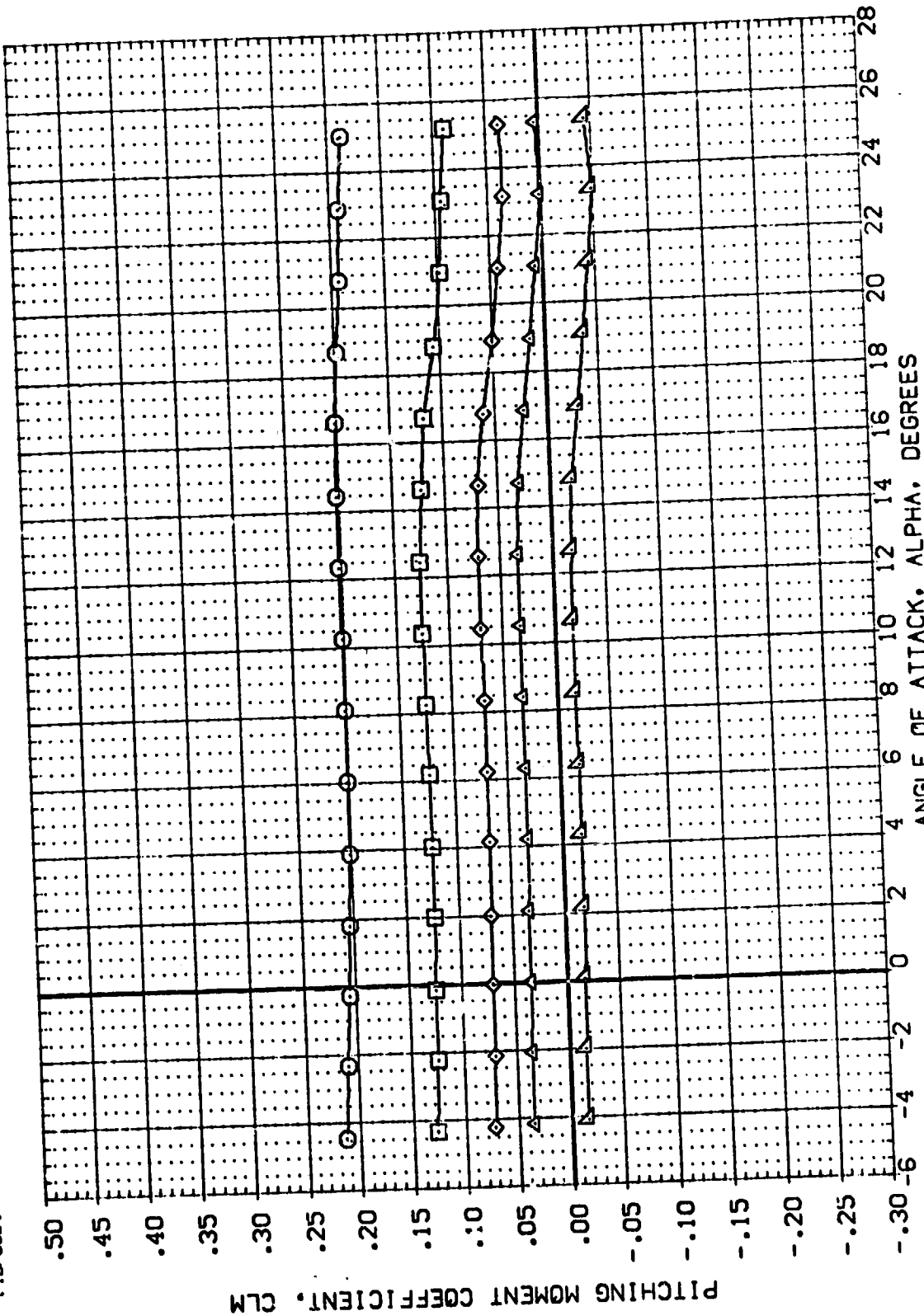


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A) MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

0A21	817C7	M4FS	V107E23V7R6X9
0A21	817C7	M4FS	V107E23V7R6X9
0A21	817C7	M4FS	V107E23V7R6X9

MAXELE DELELE BOTLAP SPOBWK

-5.000	10.000	-18.000	35.000
5.000	10.000	-18.000	55.000
10.000	10.000	-18.000	55.000

REFERENCE INFORMATION

SREF	4.4119	SD.FT.
LREF	19.2299	INCHES
BREF	37.9399	INCHES
XREF	43.5974	INCHES
YREF	.0000	INCHES
ZREF	16.2000	INCHES
SCALE	.0405	SCALE

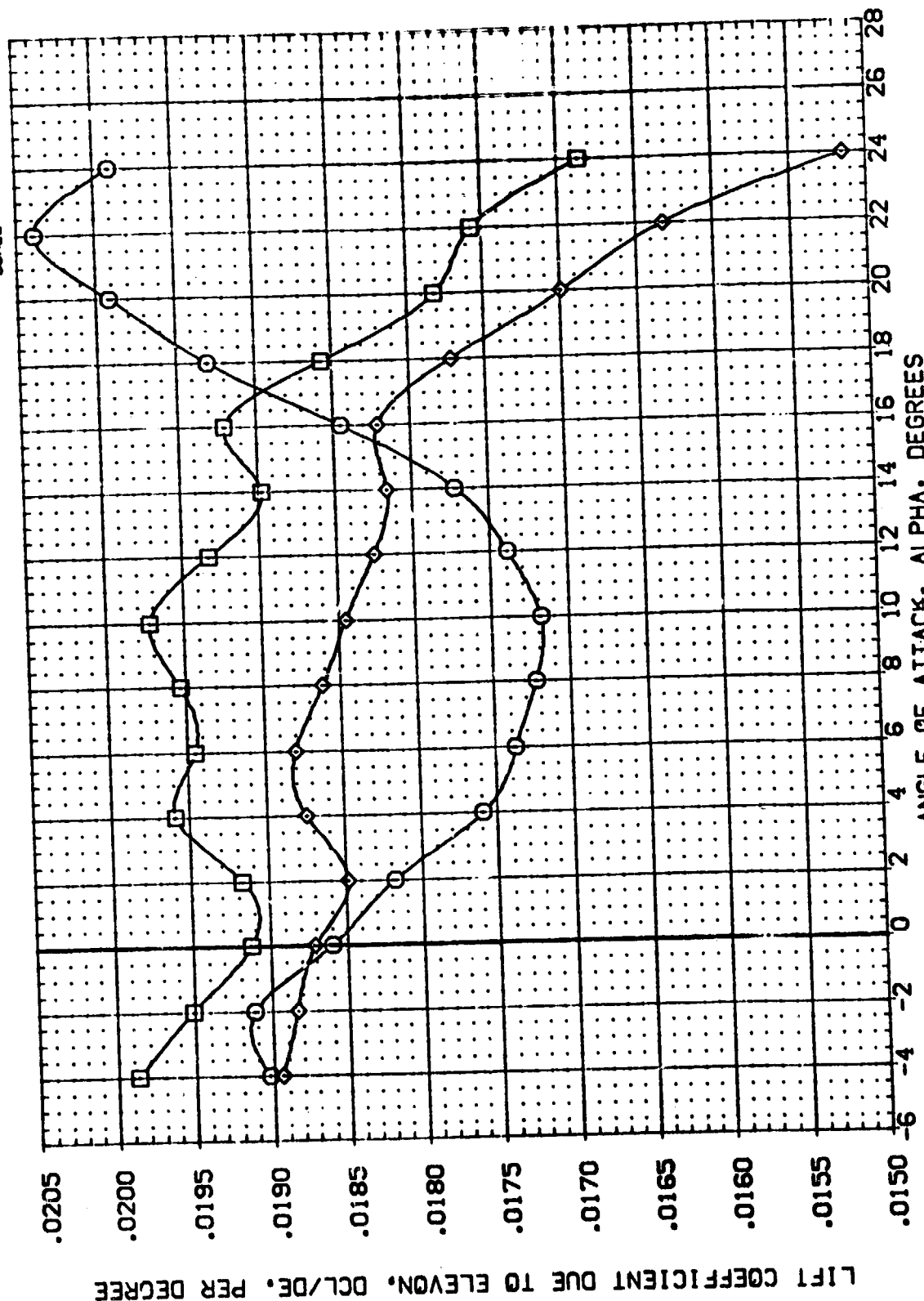


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(CP054)	0A21	B17C7	M4F5	V107E23V7R6X9
(CP051)	0A21	B17C7	M4F5	V107E23V7R6X9
(CP052)	0A21	B17C7	M4F5	V107E23V7R6X9

MAXELE    DELELE    BOFLAP    SPOBRK

-5.000	10.000	-18.000	55.000
5.000	10.000	-18.000	55.000
10.000	10.000	-18.000	55.000

REFERENCE INFORMATION

SREF	4.4119	SO.FT.
LREF	19.2299	INCHES
BREF	37.9599	INCHES
XREF	43.5974	INCHES
YREF	0.0000	INCHES
ZREF	16.2000	INCHES
SCALE	.0405	SCALE

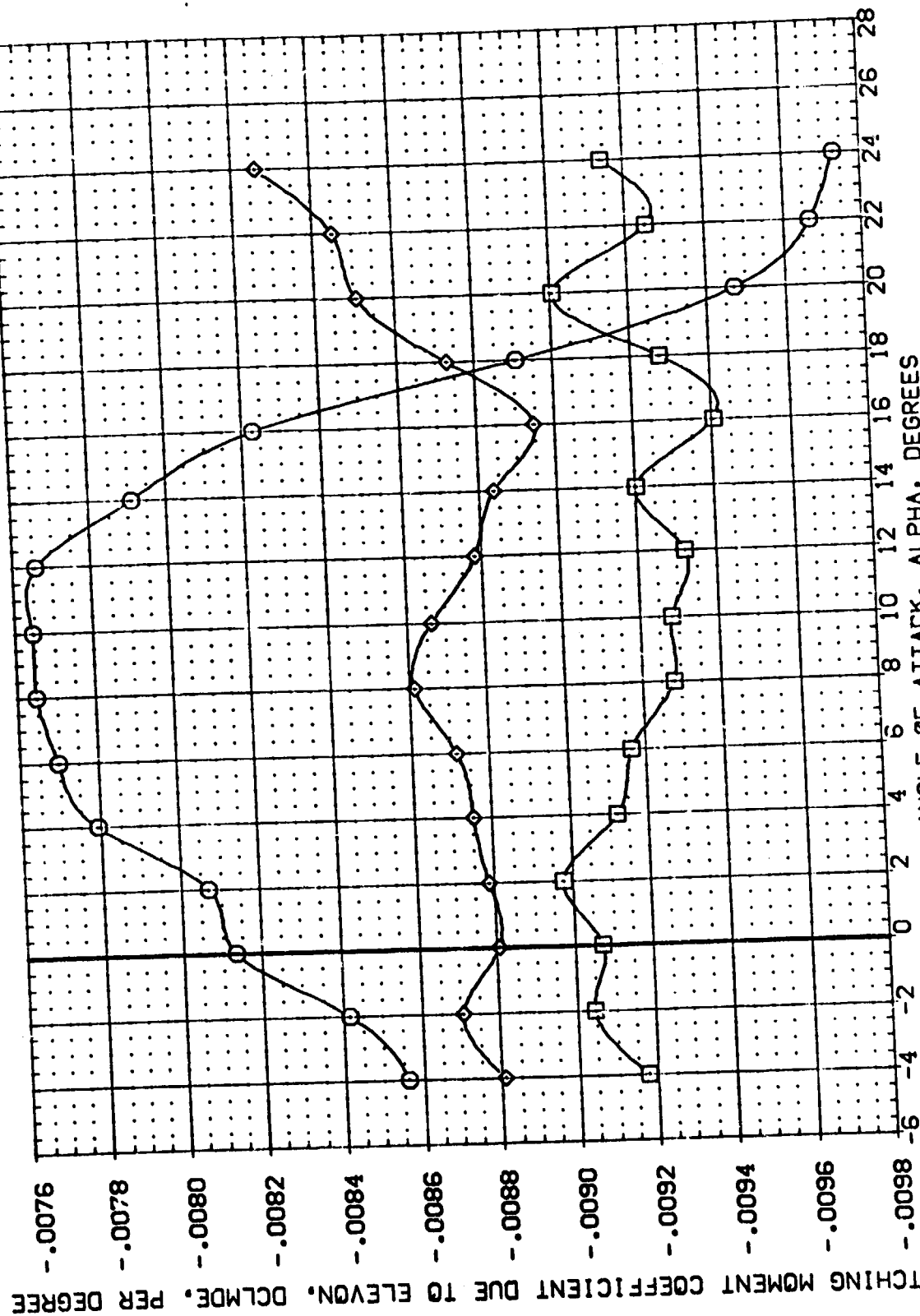


FIGURE 6 LONGITUDINAL CHARACTERISTICS ( SMALL ELEVON DEFLECTIONS )

(M)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION	SO. FT.
[D067]	DA21 B17C7 MAFS V107E23V7R6X9	-40.000	.000	-18.000	55.000	SREF 4.4119	INCHES
[D068]	DA21 B17C7 MAFS V107E23V7R6X9	-20.000	.000	-18.000	55.000	LREF 19.2299	INCHES
[D069]	DA21 B17C7 MAFS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9399	INCHES
[D070]	DA21 B17C7 MAFS V107E23V7R6X9	5.000	.000	-18.000	55.000	XREF 43.5974	INCHES
[D071]	DA21 B17C7 MAFS V107E23V7R6X9	15.000	.000	-18.000	55.000	YREF .0000	INCHES
[D072]	DA21 B17C7 MAFS V107E23V7R6X9					ZREF 16.2000	INCHES
[D073]	DA21 B17C7 MAFS V107E23V7R6X9					SCALE .0405	SCALE

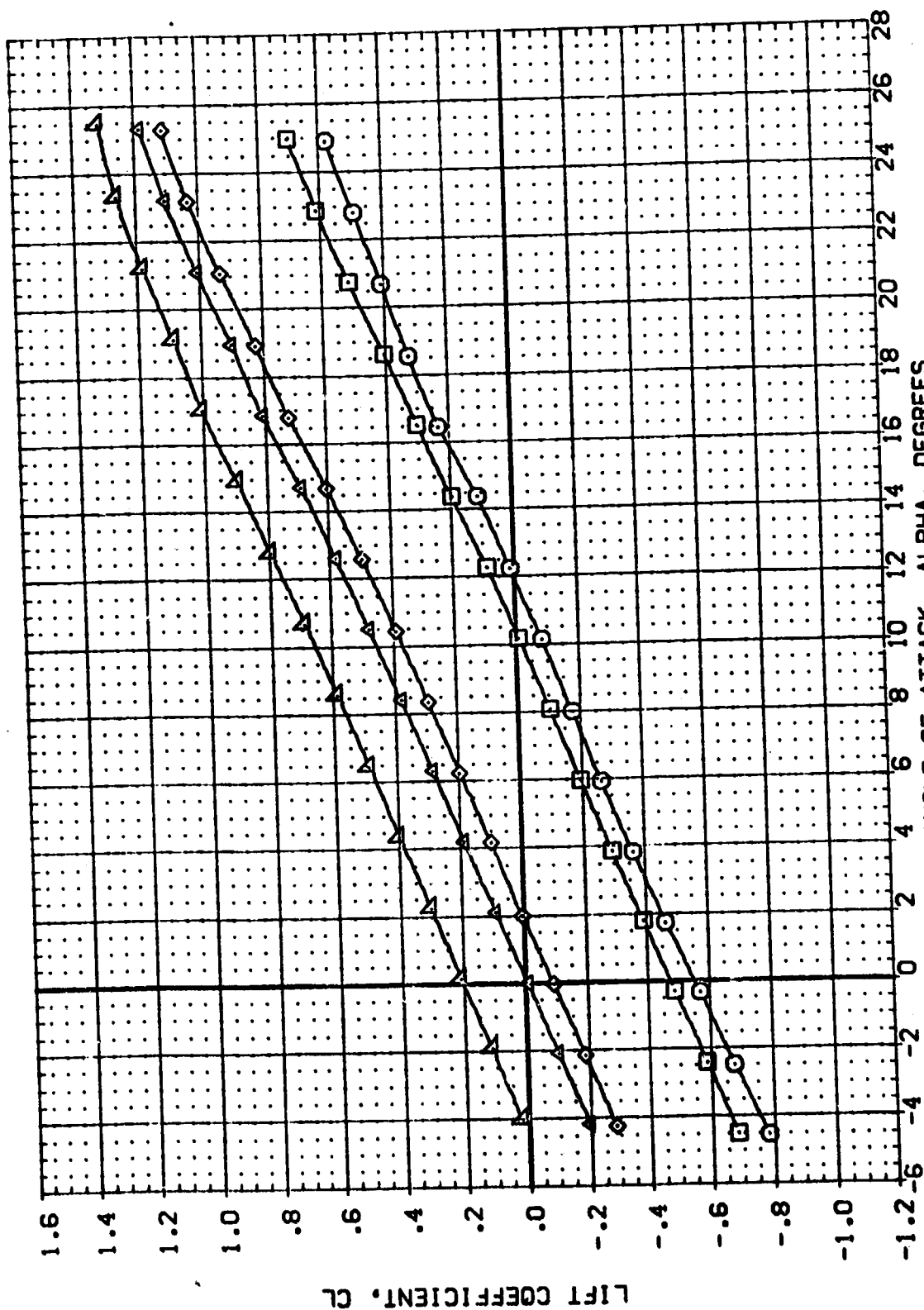


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BDLAP	SPOBRK	REFERENCE INFORMATION
(1DP067)	DA21 B17C7 M4F5 V107E23V7R6X9	-40.000	.000	-18.000	55.000	SREF 4.4119 50.FT. INCHES
(1DP066)	DA21 B17C7 M4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	LREF 19.2299 19.2299 INCHES
(1DP061)	DA21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 37.9359 INCHES
(1DP061)	DA21 B17C7 M4F5 V107E23V7R6X9	5.000	.000	-18.000	55.000	XMRP 43.5974 43.5974 INCHES
(1DP063)	DA21 B17C7 M4F5 V107E23V7R6X9	15.000	.000	-18.000	55.000	ZMRP 16.2000 16.2000 INCHES
						SCALE .0405

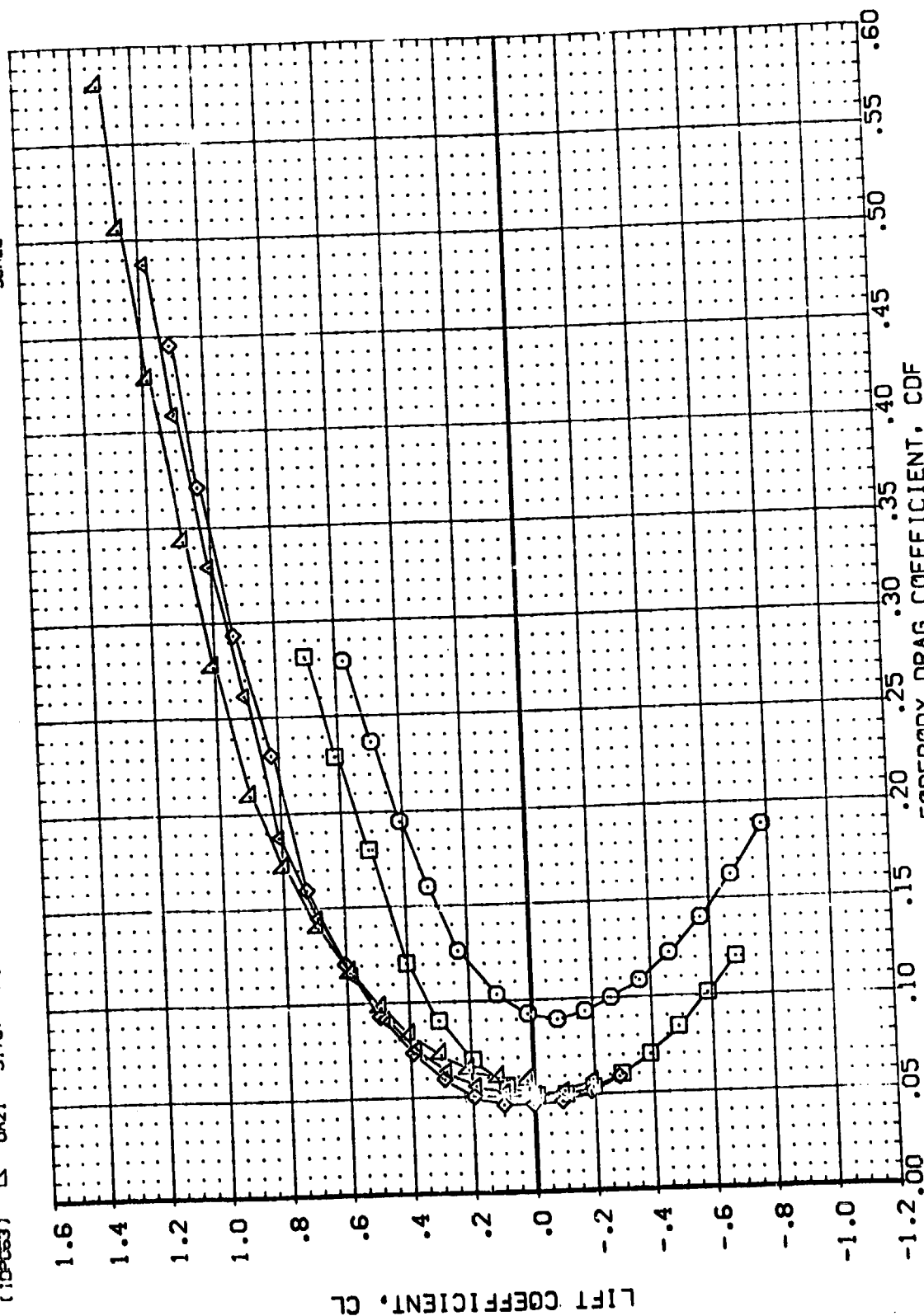


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(DP067)	0A21 B17C7 M4FS V107E23V7R6X9	-40.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP068)	0A21 B17C7 M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	LREF 19.2289 INCHES
(DP069)	0A21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(DP070)	0A21 B17C7 M4FS V107E23V7R6X9	5.000	.000	-18.000	55.000	XREF 43.5974 INCHES
(DP071)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	-18.000	55.000	YREF .0000 INCHES
(DP072)	0A21 B17C7 M4FS V107E23V7R6X9					ZREF 16.2000 INCHES
(DP073)	0A21 B17C7 M4FS V107E23V7R6X9					SCALE .0405

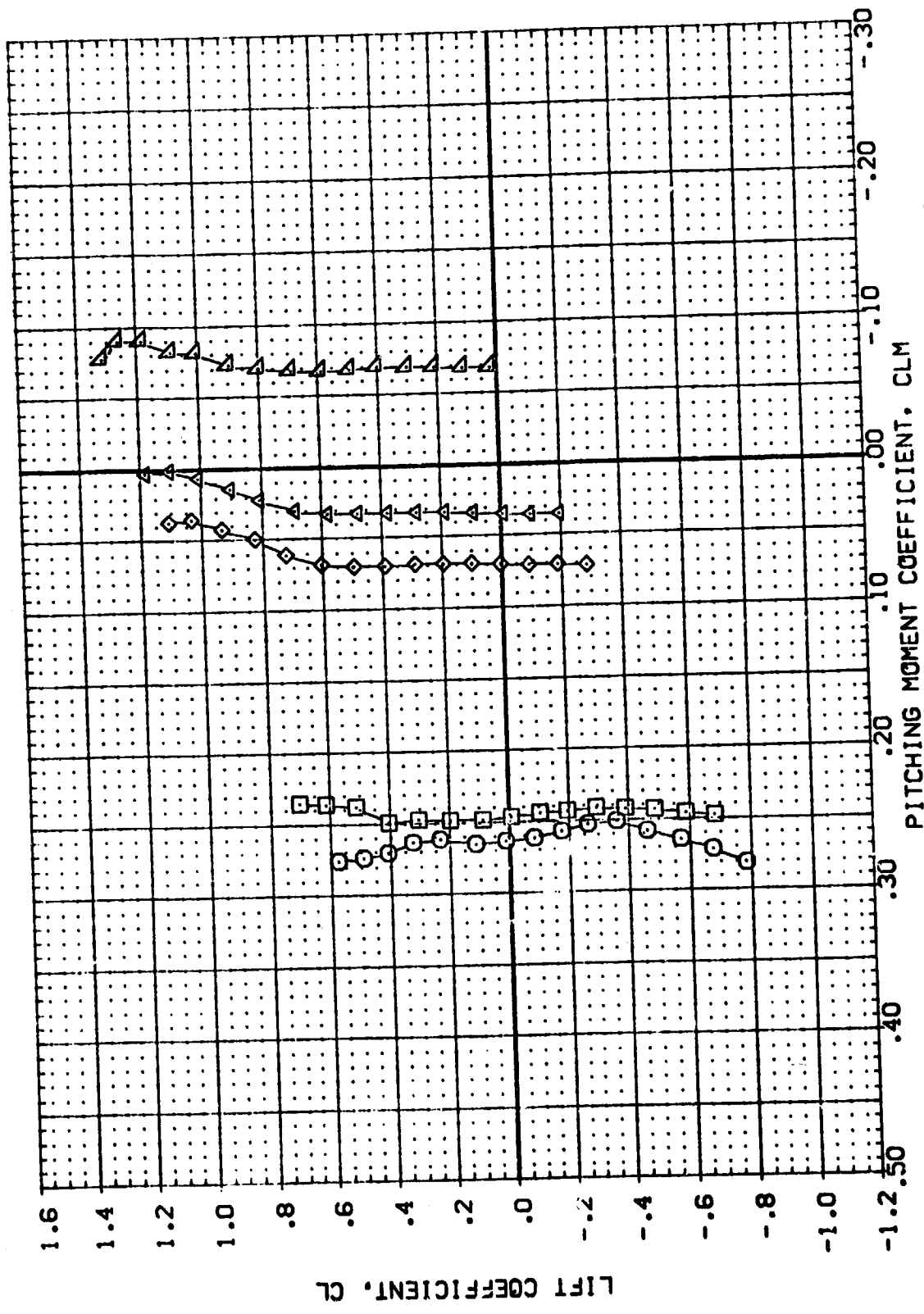


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBL	CONF	DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(DP057)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	SREF 4.4119 50.000
(DP058)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	LREF 19.2259 10.000
(DP059)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	BREF 37.9359 10.000
(DP060)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	XREF 43.5974 10.000
(DP061)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	YREF 16.2000 10.000
(DP062)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	ZREF 16.2000 10.000
(DP063)	0A21	B17C7	M4F5	V107E23V7R6X9	55.000	55.000	SCALE .0405

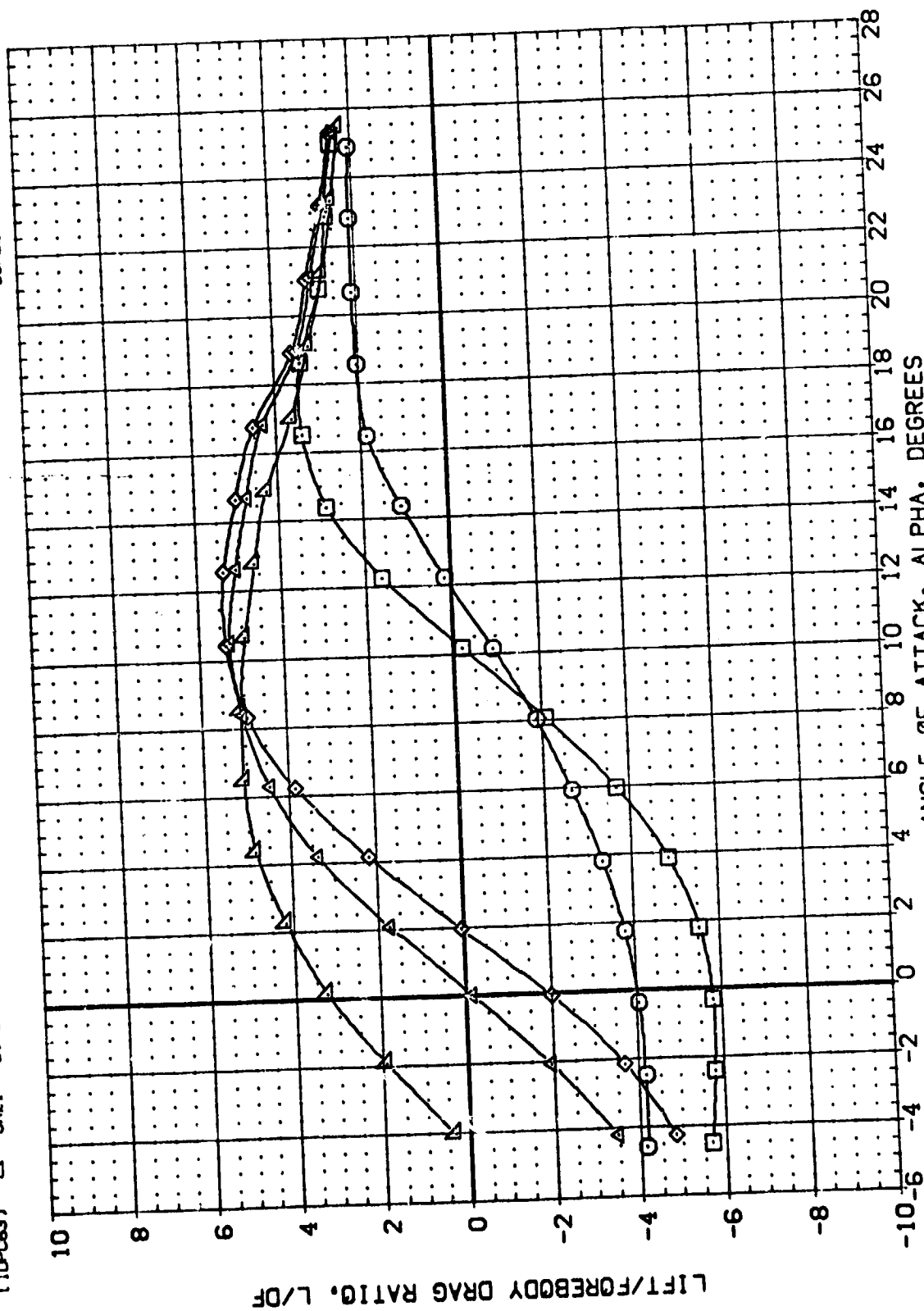


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26

DATA SET SYMBO. CONFIGURATION DESCRIPTION

DATA SET SYMBO.	CONFIGURATION DESCRIPTION
(1D067)	DA21 B17C7 M4FS V107E23V7R6X9
(1D068)	DA21 B17C7 M4FS V107E23V7R6X9
(1D069)	DA21 B17C7 M4FS V107E23V7R6X9
(1D070)	DA21 B17C7 M4FS V107E23V7R6X9
(1D071)	DA21 B17C7 M4FS V107E23V7R6X9
(1D072)	DA21 B17C7 M4FS V107E23V7R6X9
(1D073)	DA21 B17C7 M4FS V107E23V7R6X9

REFERENCE INFORMATION

REFERENCE INFORMATION	SD.FT.	INCHES
SREF	4.4119	INCHES
LREF	19.2239	INCHES
BREF	37.9359	INCHES
XMRP	43.5874	INCHES
YMRP	16.2000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ELEVON AILERON BOFLAP SPOILER

ELEVON	AILERON	BOFLAP	SPOILER
-40.000	.000	-18.000	55.000
-20.000	.000	-18.000	55.000
0.000	.000	-18.000	55.000
5.000	.000	-18.000	55.000
15.000	.000	-18.000	55.000

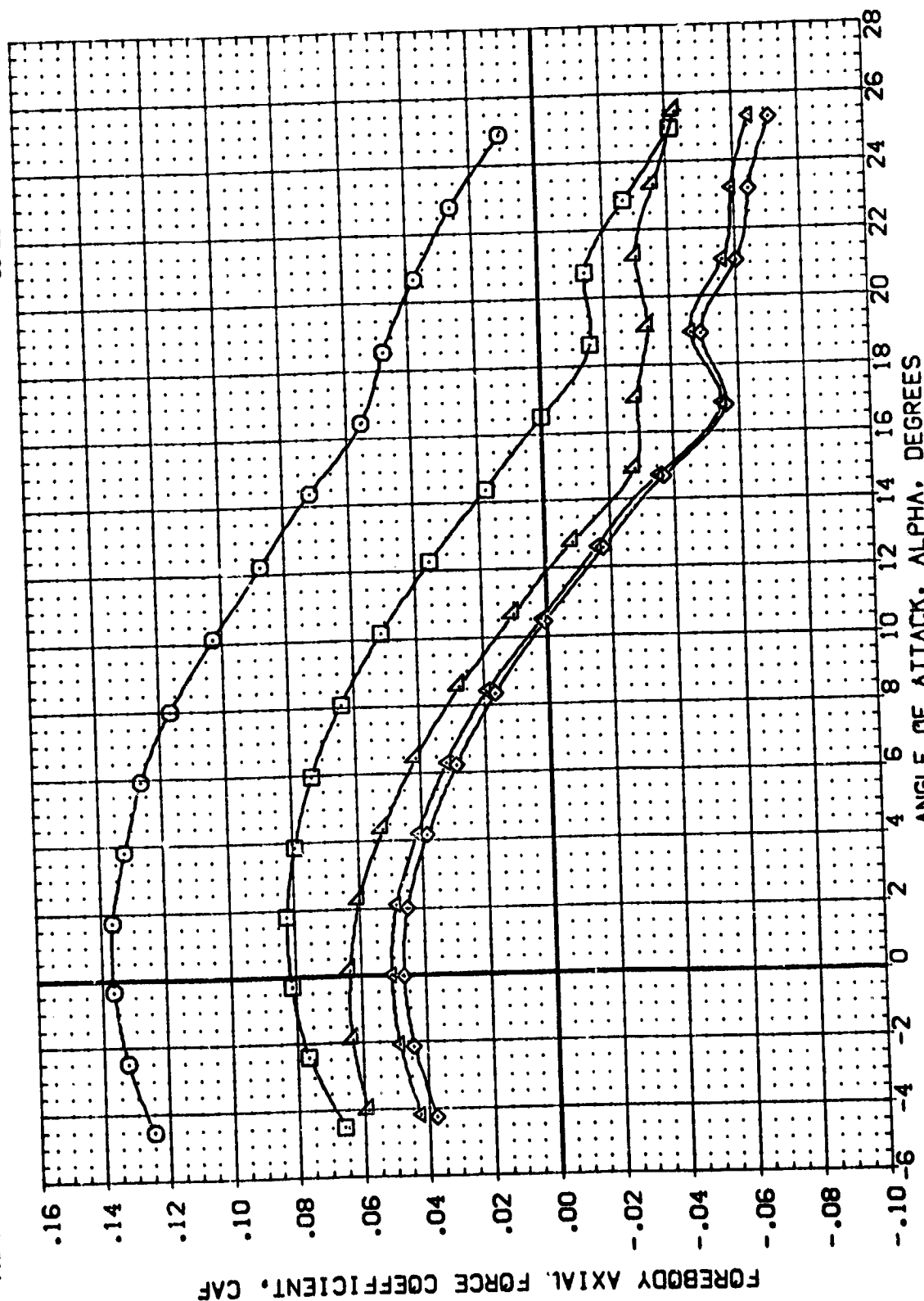


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26

ELEVON	AILERON	BOFLAP	SPODBRK	REFERENCE INFORMATION
-40.000	.000	-18.000	55.000	SREF 4.4119
-20.000	.000	-18.000	55.000	LREF 19.2299
5.000	.000	-18.000	55.000	BREF 37.5359
15.000	.000	-18.000	55.000	XMRP 43.5974
	.000	-18.000	55.000	YMRP .0000
	.000	-18.000	55.000	ZMRP 16.2000
				SCALE .0405

DATA SET SYMOL	CONFIGURATION DESCRIPTION
(IDP067)	DA21 817C7 M4FS V107E23V7R6X9
(IDP068)	DA21 817C7 M4FS V107E23V7R6X9
(IDP069)	DA21 817C7 M4FS V107E23V7R6X9
(IDP070)	DA21 817C7 M4FS V107E23V7R6X9
(IDP071)	DA21 817C7 M4FS V107E23V7R6X9

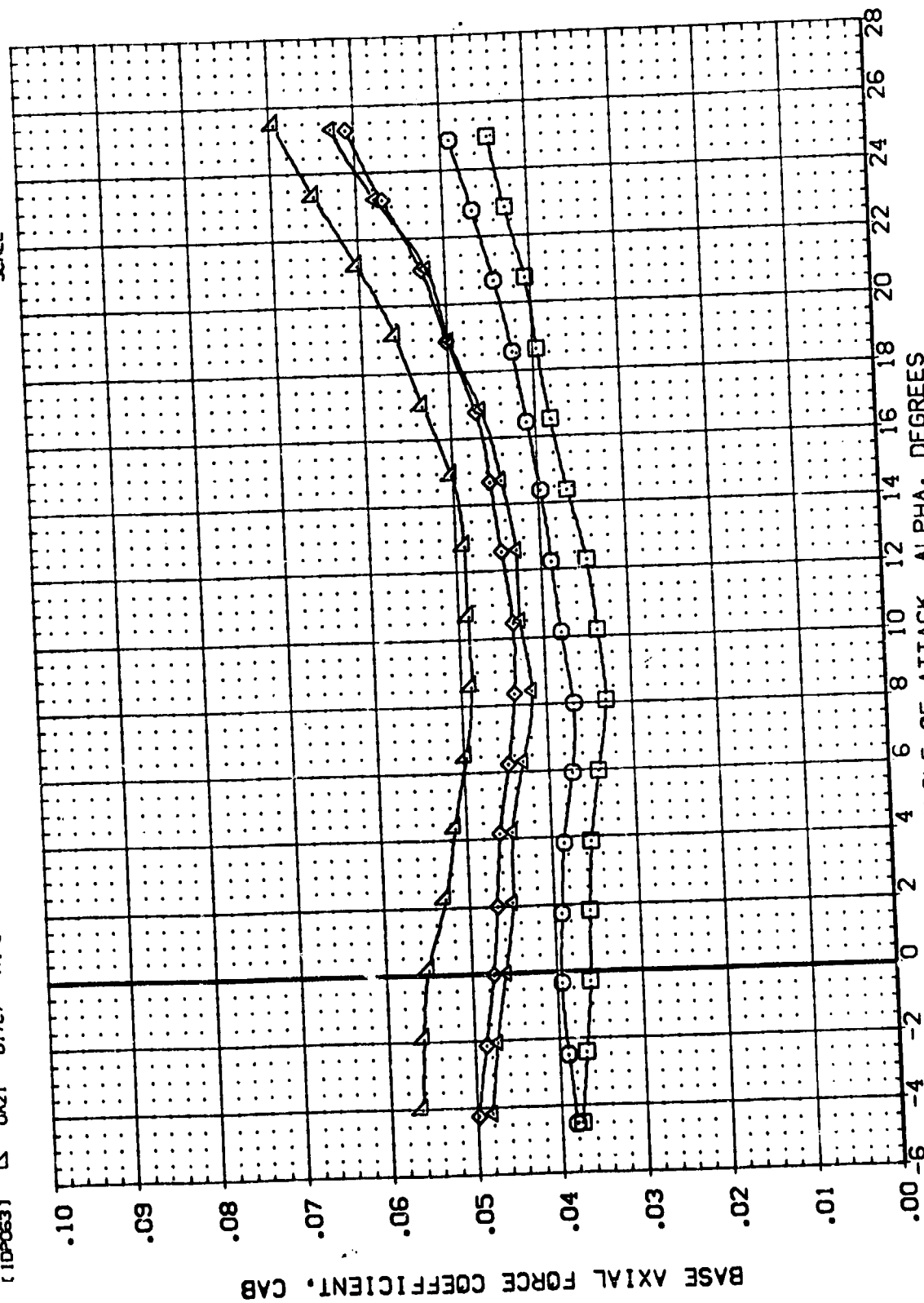


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26

REFERENCE INFORMATION

SREF	4.4119	SO.FT.	INCHES
LREF	19.2299	INCHES	INCHES
BREF	37.9359	INCHES	INCHES
XMRP	43.5974	INCHES	INCHES
YMRP	0.0000	INCHES	INCHES
ZMRP	16.2000	INCHES	INCHES
SCALE	.0405	INCHES	SCALE

SPORX

ELEVON	AILRON	BDFLAP
55.000	-18.000	55.000
-40.000	-18.000	55.000
-20.000	-18.000	55.000
5.000	-18.000	55.000
15.000	-18.000	55.000

CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
DP067	VI07E23V7R6X9
DP068	VI07E23V7R6X9
DP069	VI07E23V7R6X9
DP070	VI07E23V7R6X9
DP071	VI07E23V7R6X9
DP072	VI07E23V7R6X9
DP073	VI07E23V7R6X9

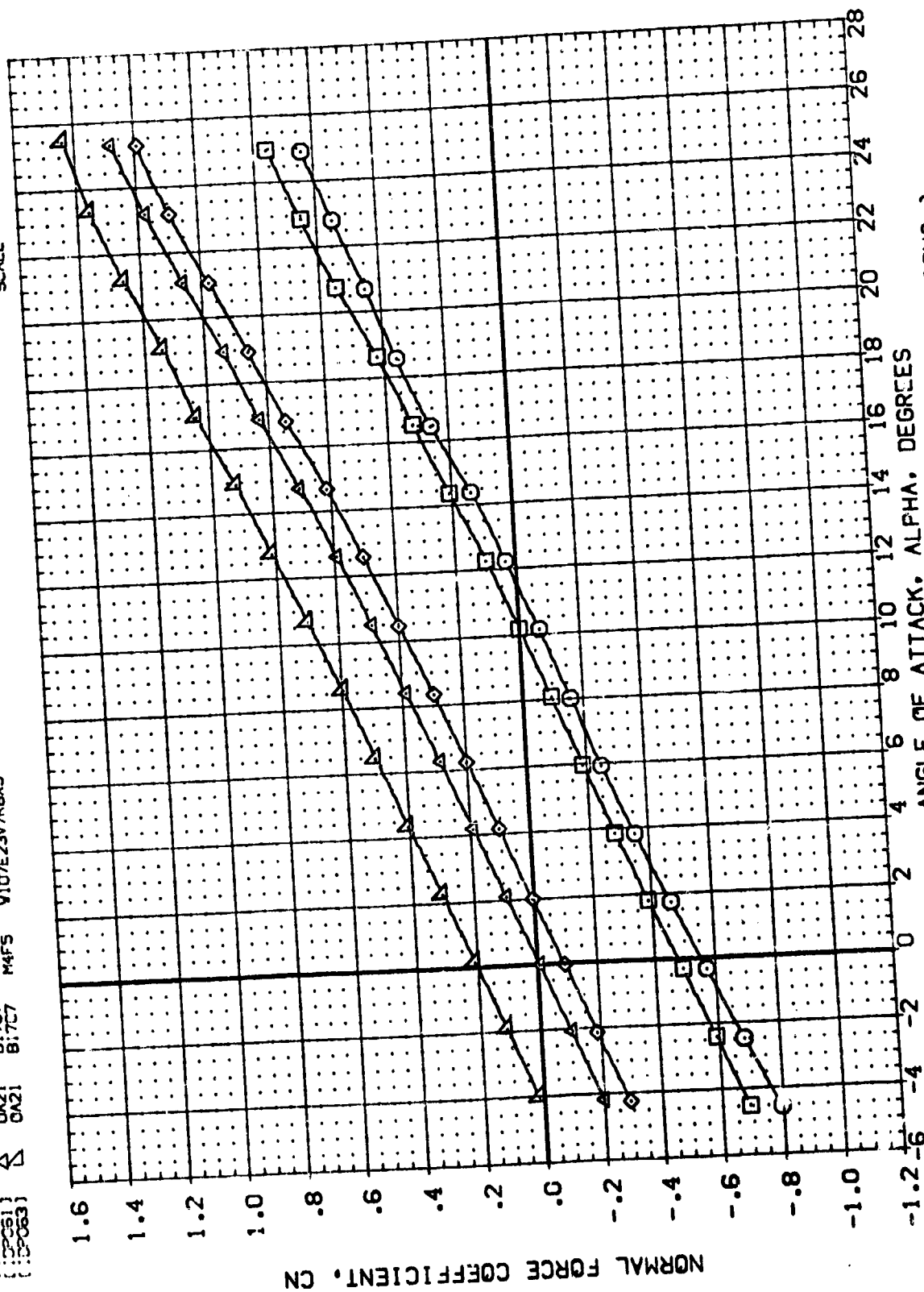


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		SQ. FT.	
(1D067)	QA21	B17C7	MAFS	SPDRK	55.000	SREF	4.4119
(1D068)	QA21	B17C7	MAFS	BOELAP	55.000	LREF	13.2299
(1D069)	QA21	B17C7	MAFS	ELEVON	55.000	BREF	37.9359
(1D070)	QA21	B17C7	MAFS	AILERON	55.000	XMRP	43.5974
(1D071)	QA21	B17C7	MAFS	ELEVON	55.000	ZMRP	16.2000
(1D072)	QA21	B17C7	MAFS	ELEVON	55.000	SCALE	.0405

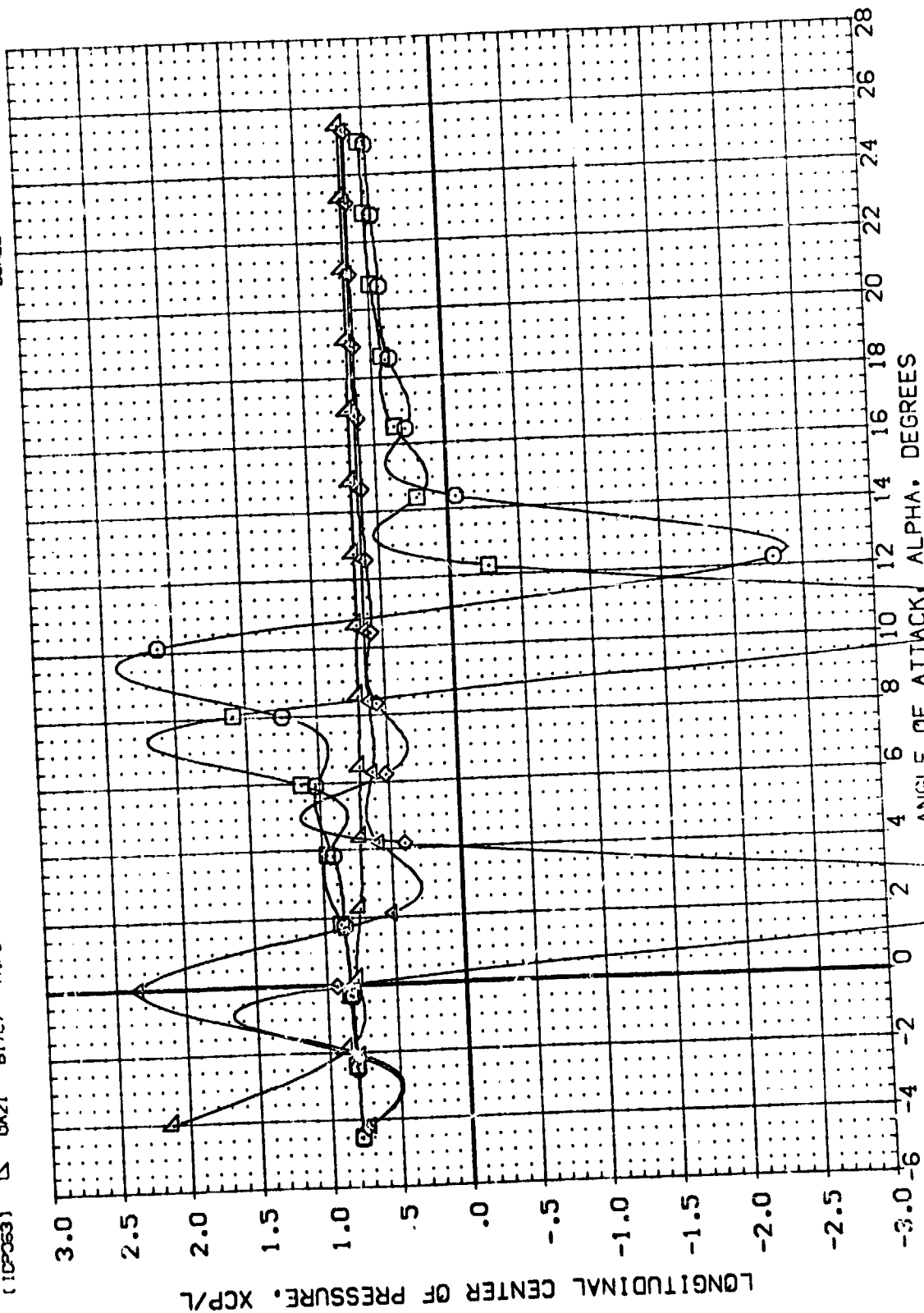


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(MACH = .25)

DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	ELEVON	AILERON	BDLAP	SPCLAP	REFERENCE INFORMATION
(ID067)	□	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	SREF 4.4119
(ID068)	○	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	LREF 19.2288
(ID069)	△	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	BREF 37.5559
(ID070)	◇	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	XREF 43.5574
(ID071)	×	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	YREF 16.2000
(ID072)	+	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	ZREF 16.2000
(ID073)	·	DA21	817C7	M4FS	V107E23V7R6X9	0.000	0.000	SCALE .0405

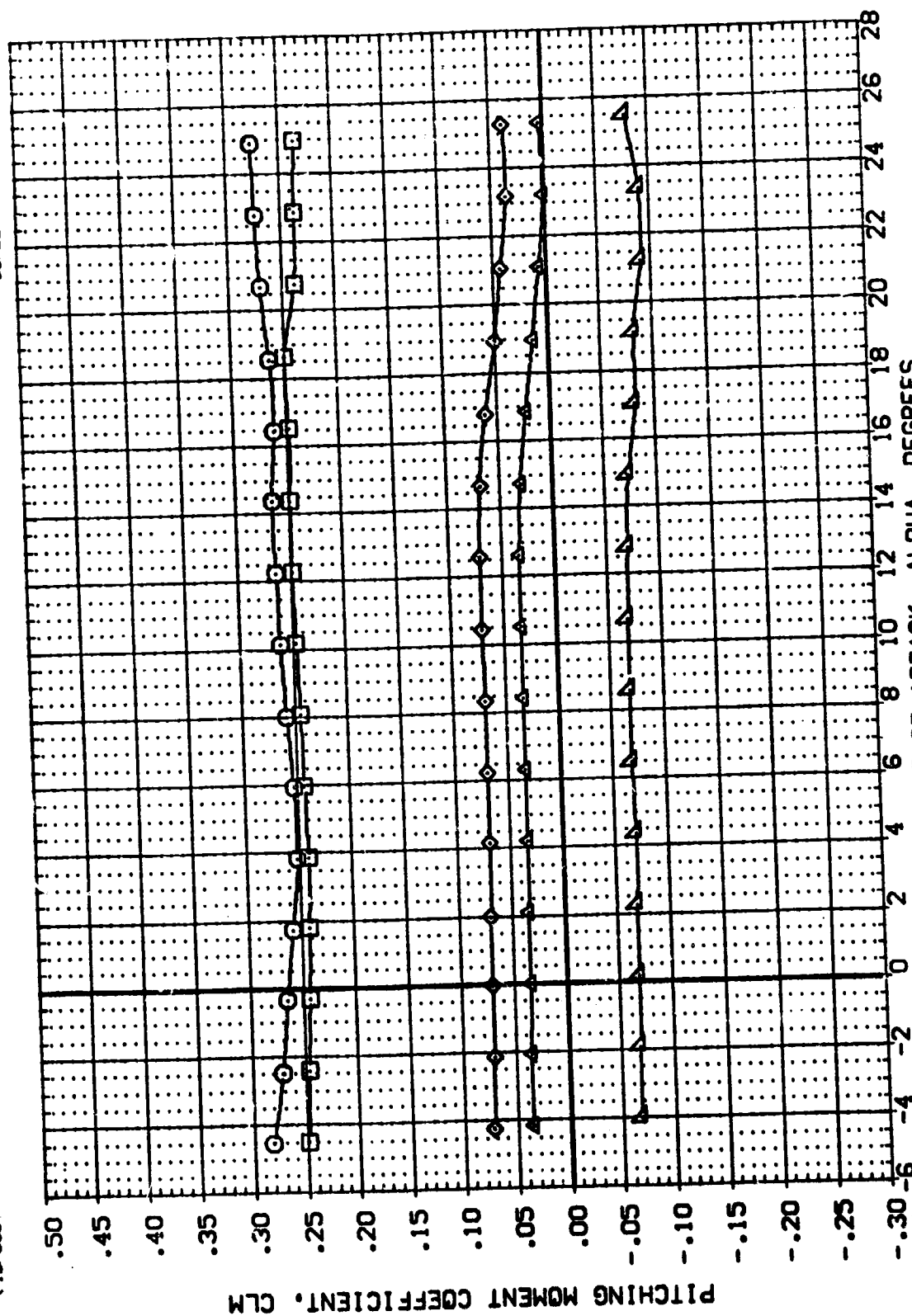


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(00P06)	DA21	B17C7	M4FS	V107E23V7R6A3	
(00P01)	DA21	B17C7	M4FS	V107E23V7R6A3	
(00P03)	DA21	B17C7	M4FS	V107E23V7R6A3	

MAVELE	DELELE	BDFLAP	SPDRBK	REFERENCE INFORMATION
-20.000	20.000	-18.000	55.000	4.4119
.000	20.000	-18.000	55.000	19.2299
15.000	10.000	-18.000	55.000	37.9359
				43.5974
				16.0000
				16.2000
				SCALE
				.0405

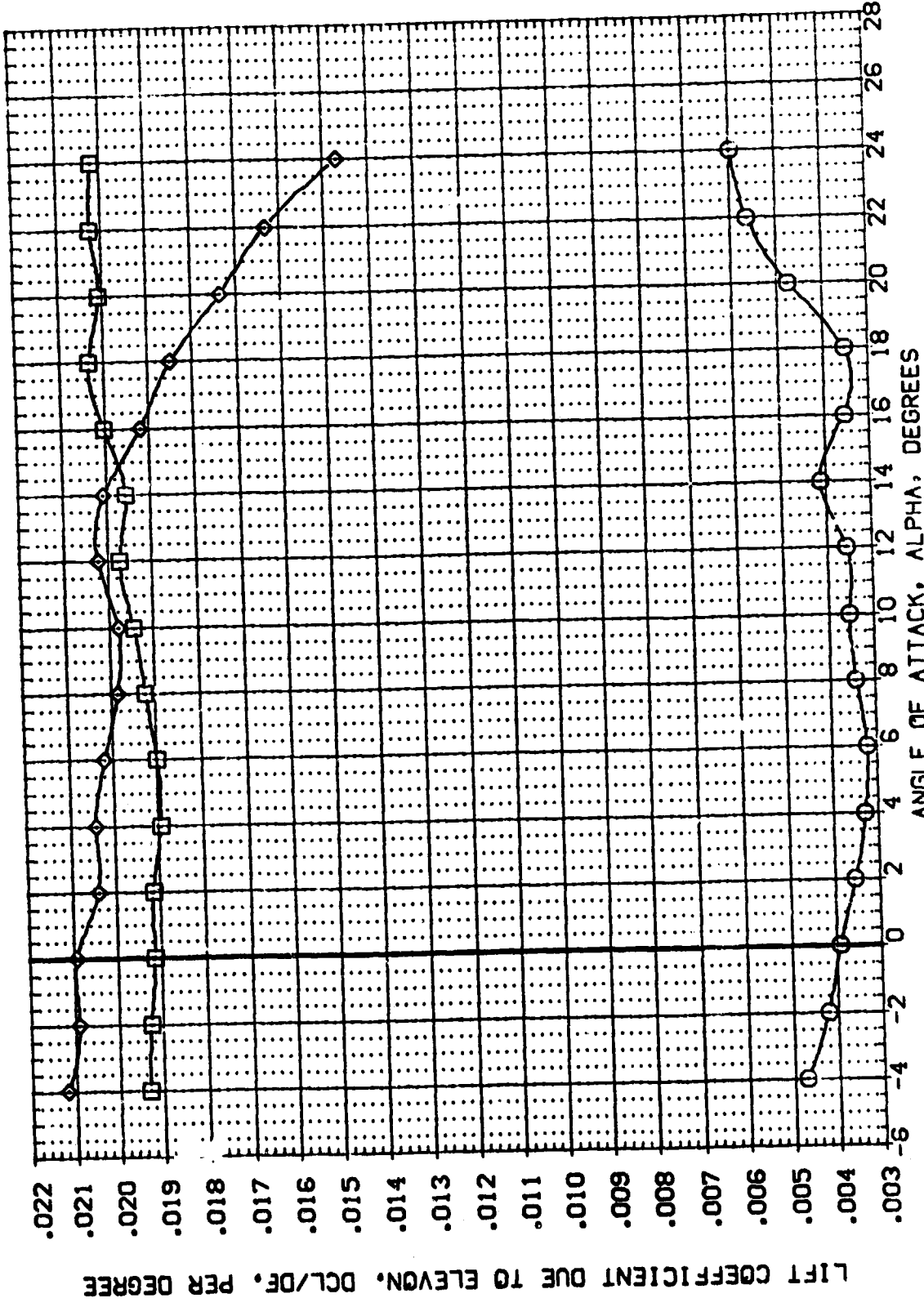


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVON DEFLECTIONS )

(A)MACH = .26



REFERENCE INFORMATION	
REF	4.4119 SQ.FT.
REF	19.2269 INCHES
REF	37.9359 INCHES
REF	43.9574 INCHES
REF	0.0000 INCHES
REF	16.2000 INCHES
SCALE	.0405 SCALE

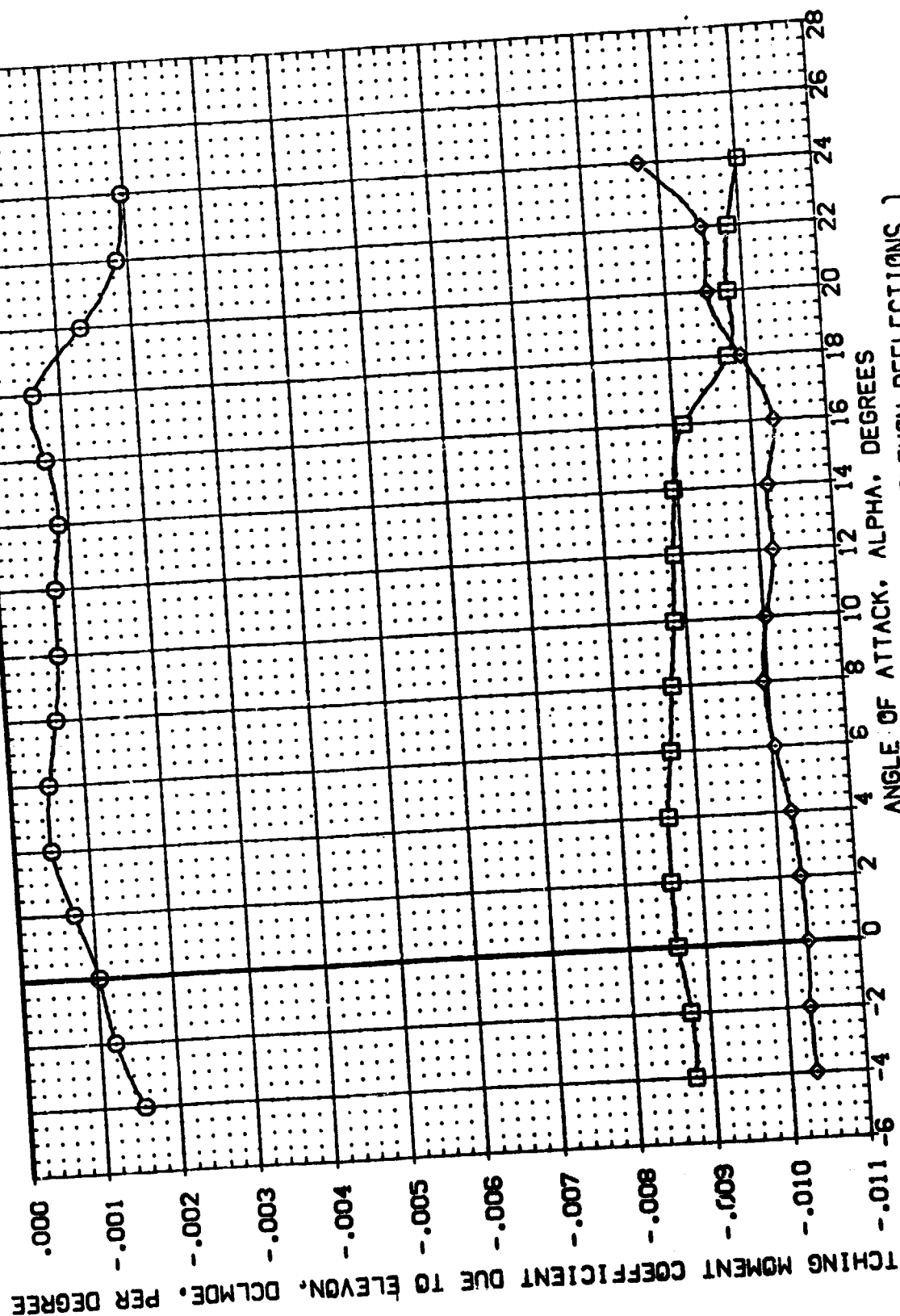


FIGURE 7 LONGITUDINAL CHARACTERISTICS ( LARGE ELEVEN DEFLECTIONS )

1. LOOKUP (A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(IDP107)	0A21 B17C7 H2M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SO.FT. INCHES
(IDP127)	0A21 B17C7 H2M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(IDP132)	0A21 B17C7 H2M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
		10.000				YMRP 43.5974 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

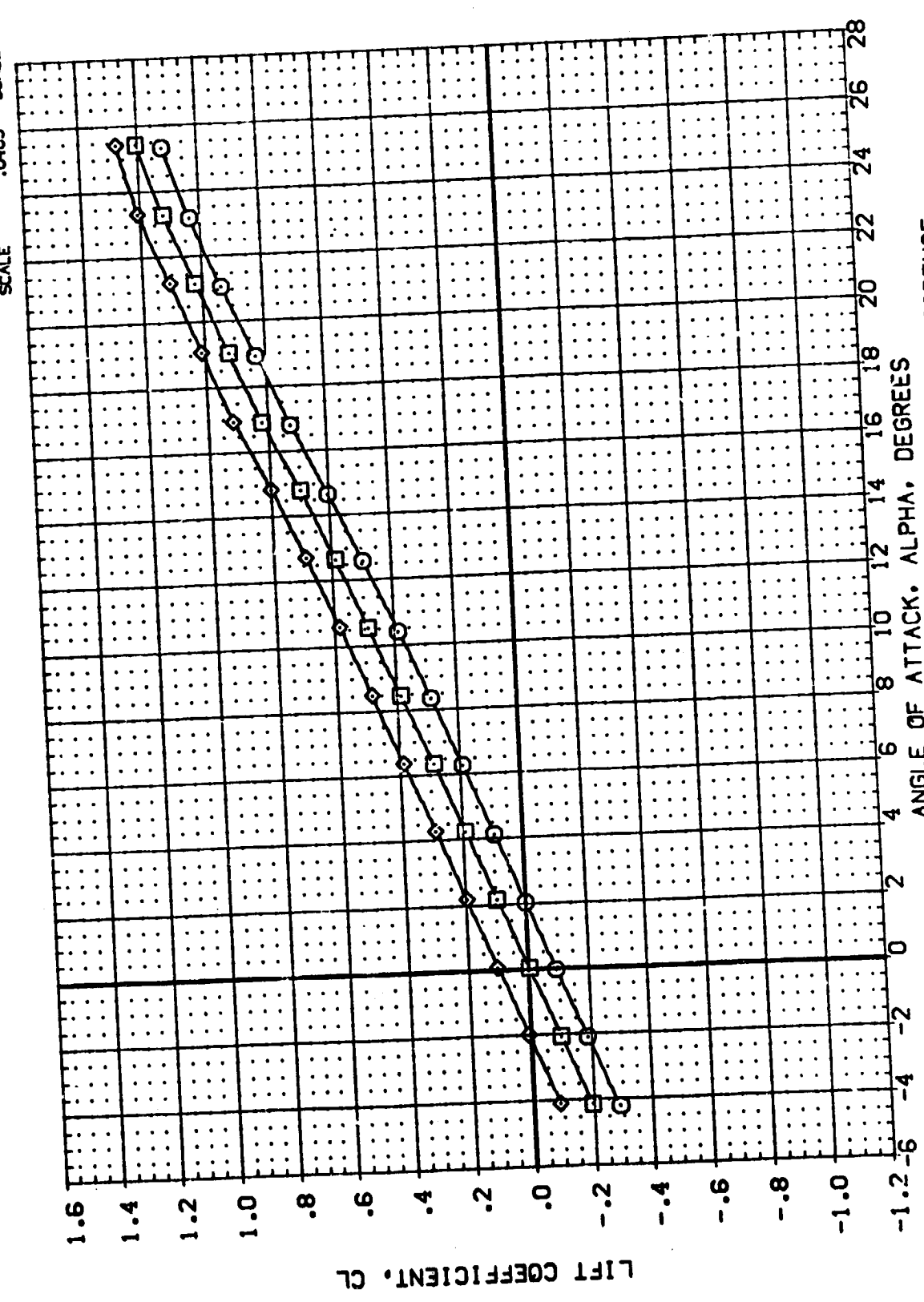


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

ELEVATION	AIRLON	BOFLAP	SPORK	REFERENCE INFORMATION	99. FT.
.000	.000	-18.000	99.000	SREF	4.4119
.000	.000	-18.000	99.000	REF	19.7259
5.000	.000	-18.000	99.000	SREF	37.9359
10.000	.000	-18.000	99.000	SREF	43.3874
				YREF	.0000
				ZREF	16.2000
				SCALE	.0405

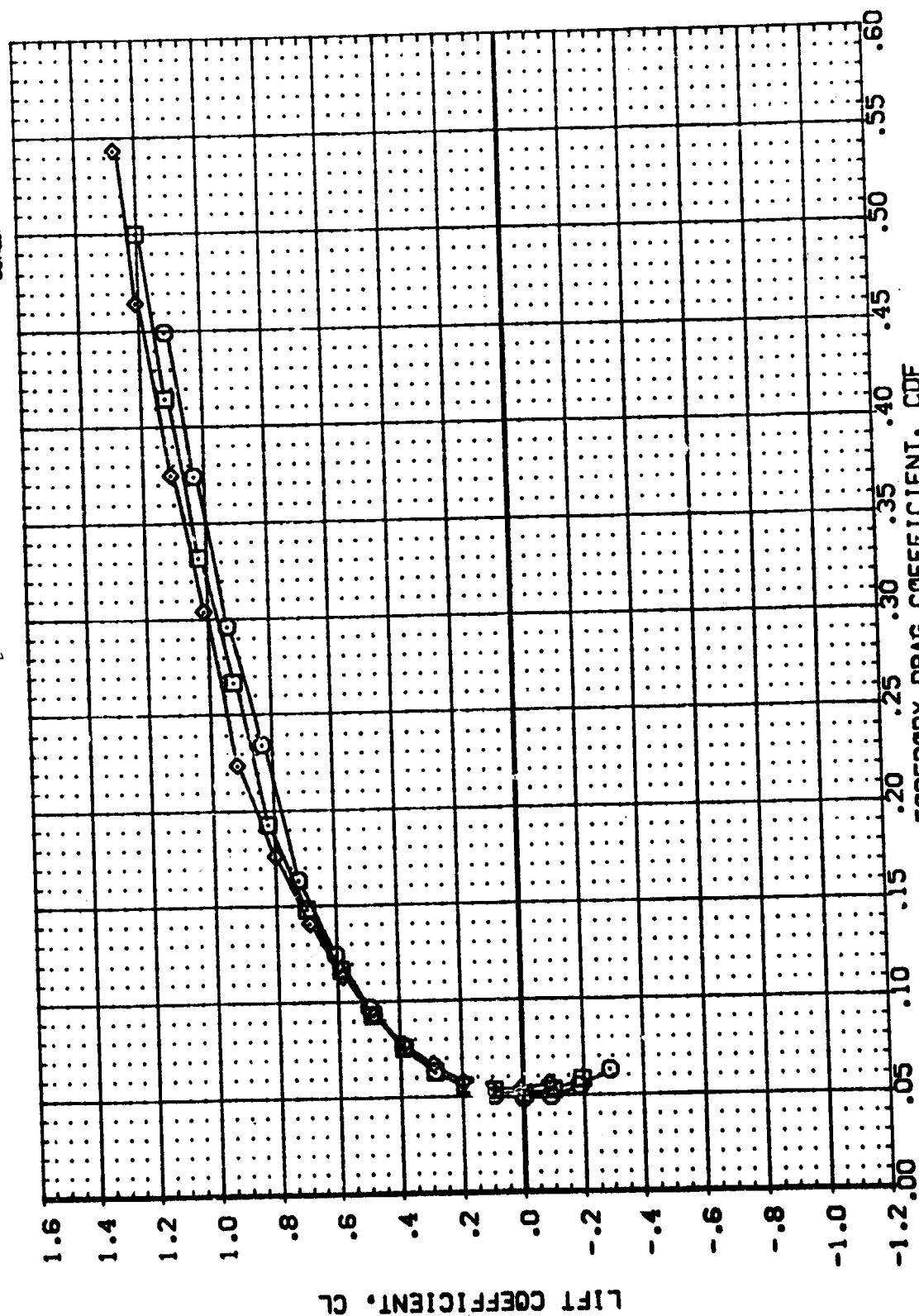


FIGURE 8. ELEVEN EFFECTIVENESS WITH H<sub>2</sub> CANARD AT 0 DEG. INCIDENCE FOREBODY DRAG COEFFICIENTS.

$$\{A\}_{MACH} = .26$$

ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION	
.000	.000	-18.000	55.000	SREF	4.4119
5.000	.000	-18.000	55.000	LREF	19.2299
10.000	.000	-18.000	55.000	BREF	37.9359
				XMRP	43.5974
				YMRP	.0000
				ZMRP	15.2000
				SCALE	.0405

DATA SET SYMOL	CONFIGURATION DESCRIPTION
0A21	817C7 H2M4FS
0A21	817C7 H2M4FS
0A21	817C7 H2M4FS

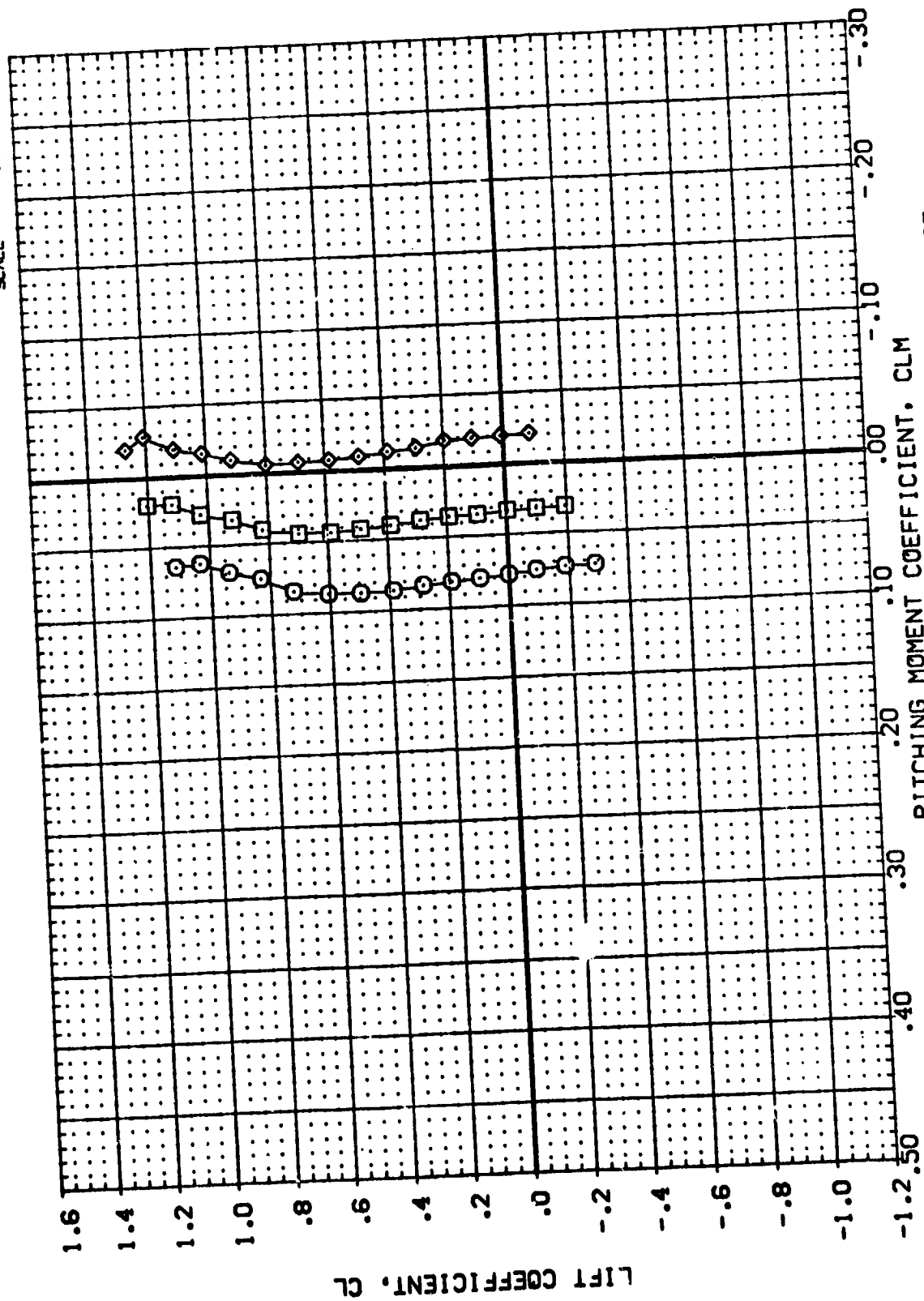


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	ATTACH	BOELAP	SPORCK	REFERENCE INFORMATION
(IDP107)	DA21 817C7 HQMF5 V107E23V7R6S	.000	.000	-18.000	55.000	4.4119 50.FT.
(IDP127)	DA21 817C7 HQMF5 V107E23V7R6S	5.000	.000	-18.000	55.000	19.2759 INCHES
(IDP132)	DA21 817C7 HQMF5 V107E23V7R6S	10.000	.000	-18.000	55.000	37.9259 INCHES
						43.5974 INCHES
						0.000 INCHES
						0.000 INCHES
						16.2000 INCHES
						SCALE .0405

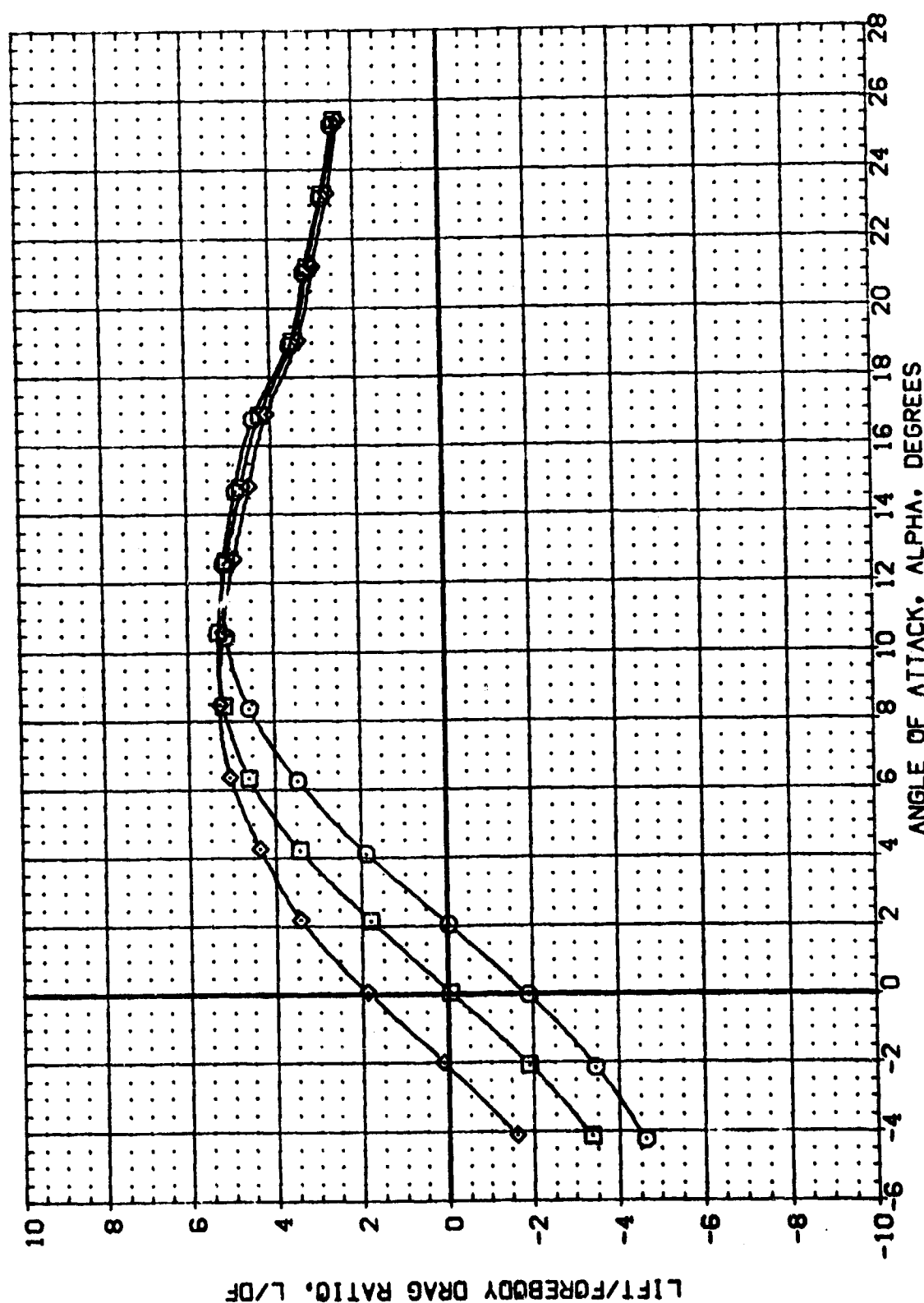


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

REFERENCE INFORMATION

SO.FT.	4.4119
INCHES	19.2299
INCHES	37.9359
INCHES	43.5974
INCHES	00.00
INCHES	16.2000
SCALE	.0405

ELEVON AILRON BOFLAP SPOBRK

ELEVON	AILRON	BOFLAP	SPOBRK
.000	.000	-18.000	55.000
.000	.000	-18.000	55.000
.000	.000	-18.000	55.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(IDP107)	DA21	817C7	H2H4F5	V107E23V7R6X9
(IDP127)	DA21	817C7	H2H4F5	V107E23V7R6X9
(IDP132)	DA21	817C7	H2H4F5	V107E23V7R6X9

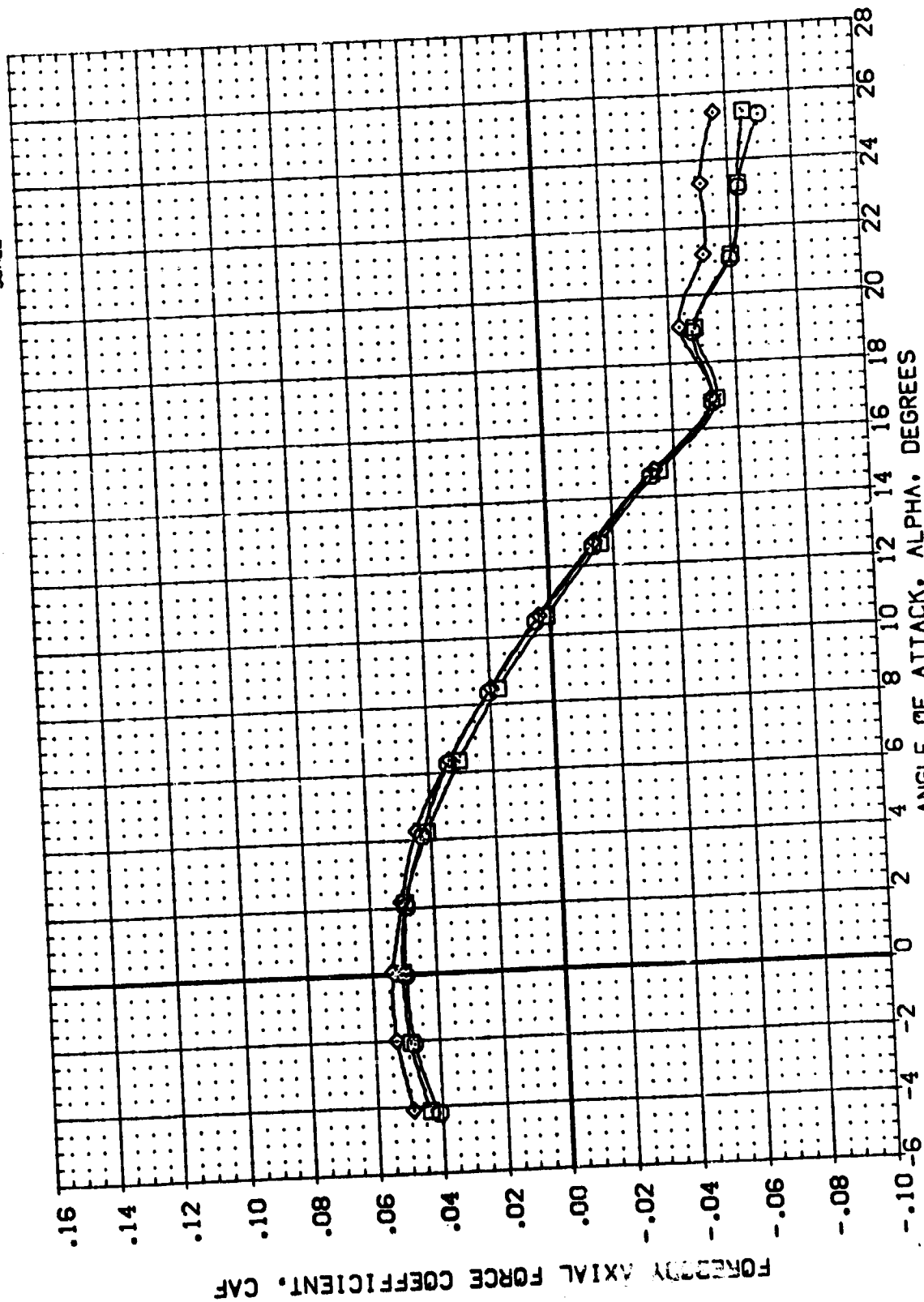


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(10P107)	0A21	817C7	H2H4F5	V107E23V7R6X9
(10P127)	0A21	817C7	H2H4F5	V107E23V7R6X9
(10P132)	0A21	817C7	H2H4F5	V107E23V7R6X9

ELEVON AILRON BOFLAP SPDRBK

0.000	0.000	-18.000	55.000
5.000	0.000	-18.000	55.000
10.000	0.000	-18.000	55.000

REFERENCE INFORMATION

SREF	4.4119	50.000
LREF	19.2299	50.000
BREF	37.5359	50.000
XMRP	43.5974	50.000
YMRP	0.0000	50.000
ZMRP	16.2000	50.000
SCALE	0.0405	50.000

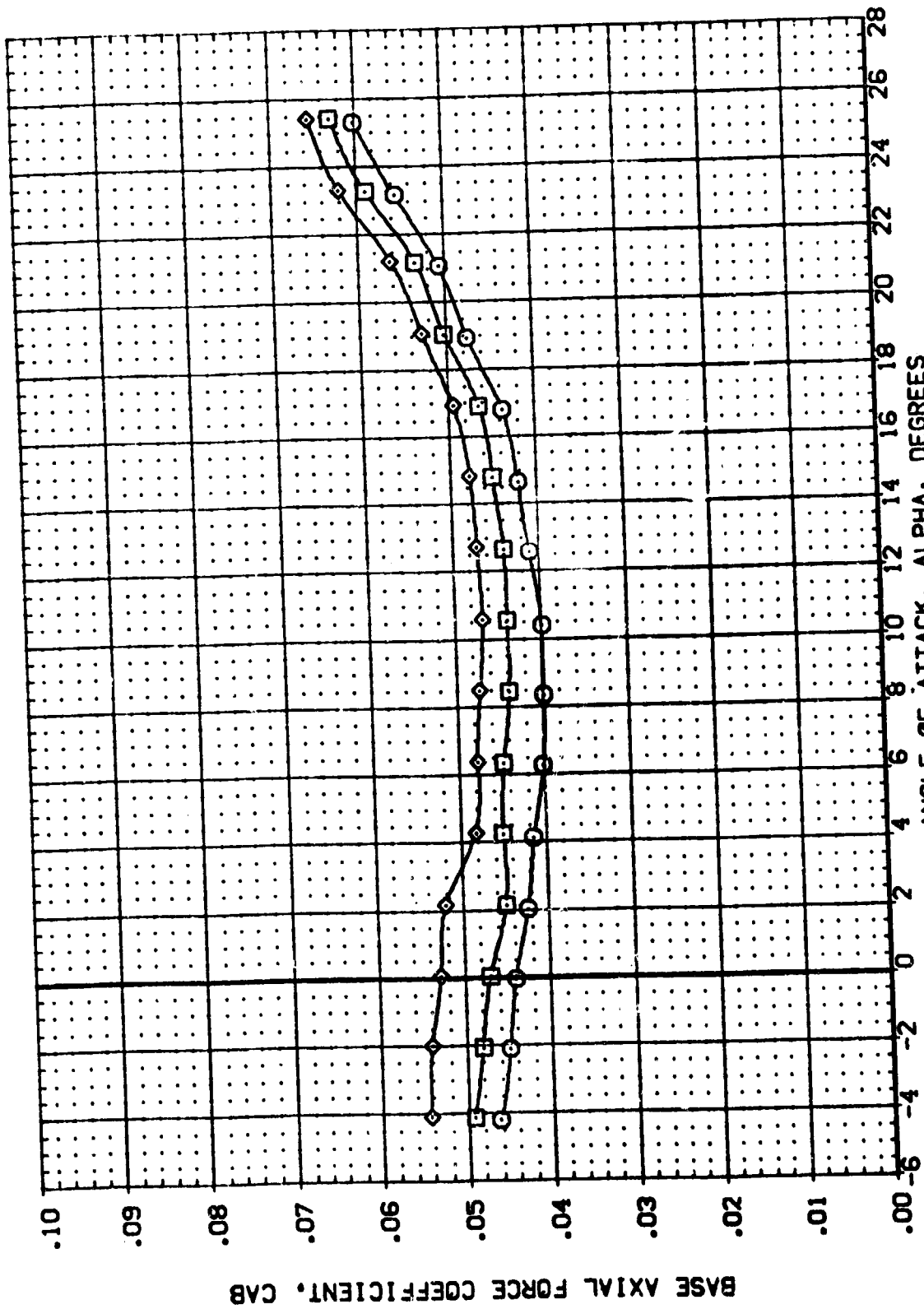


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(AJMACH = .26

DATA SET SYMBOL. CONFIGURATION DESCRIPTION

(DP107) 0A21 B17C7 H2M4F5 V107E23V7R6X9

(DP127) 0A21 B17C7 H2M4F5 V107E23V7R6X9

(DP132) 0A21 B17C7 H2M4F5 V107E23V7R6X9

ELEVON AILRON BDFLAP SPDBRK

.000 .000 -18.000 55.000

5.000 .000 -18.000 55.000

10.000 .000 -18.000 55.000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2299 INCHES

BREF 37.9359 INCHES

XMRP 43.5874 INCHES

YMRP .0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405

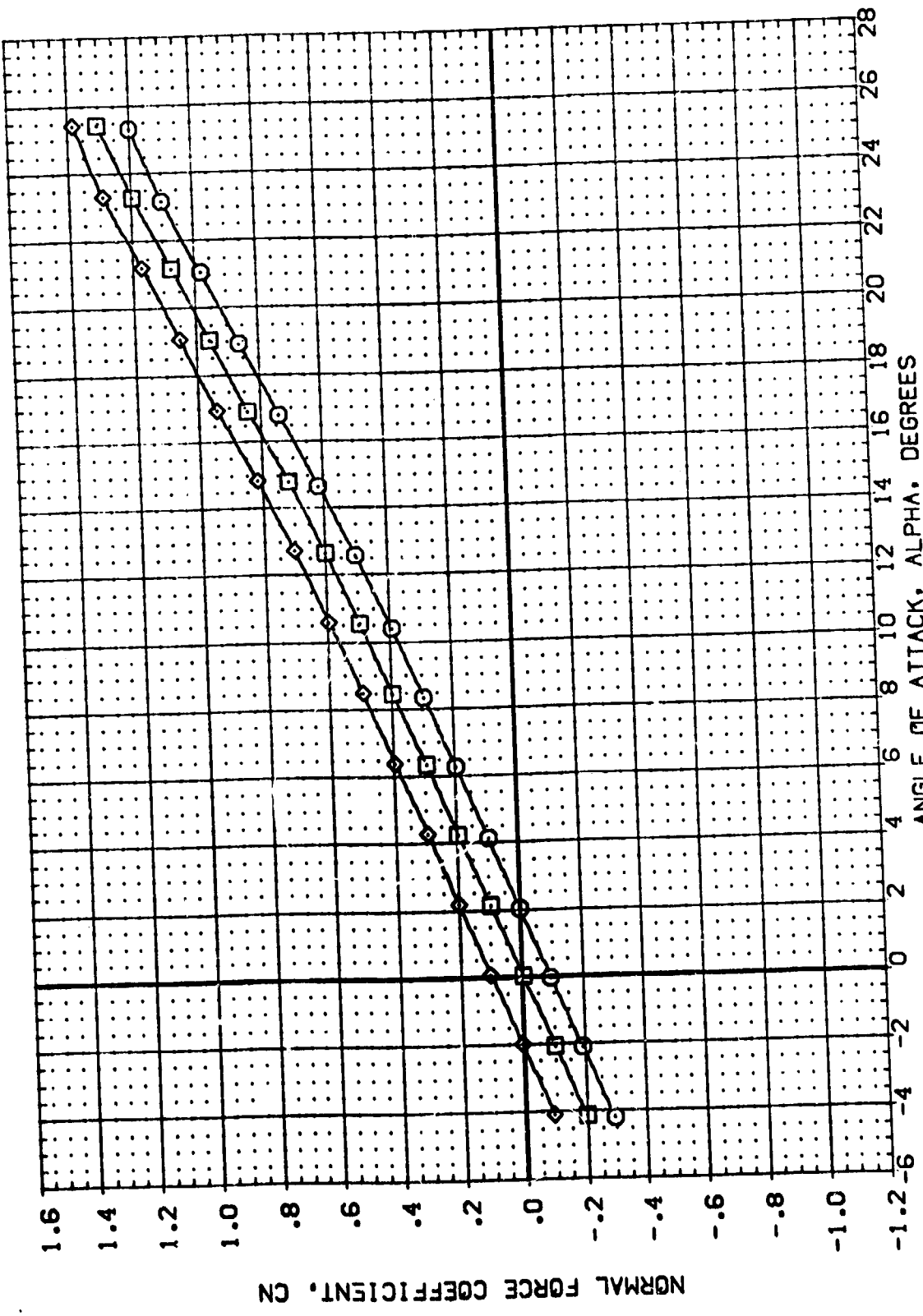


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26



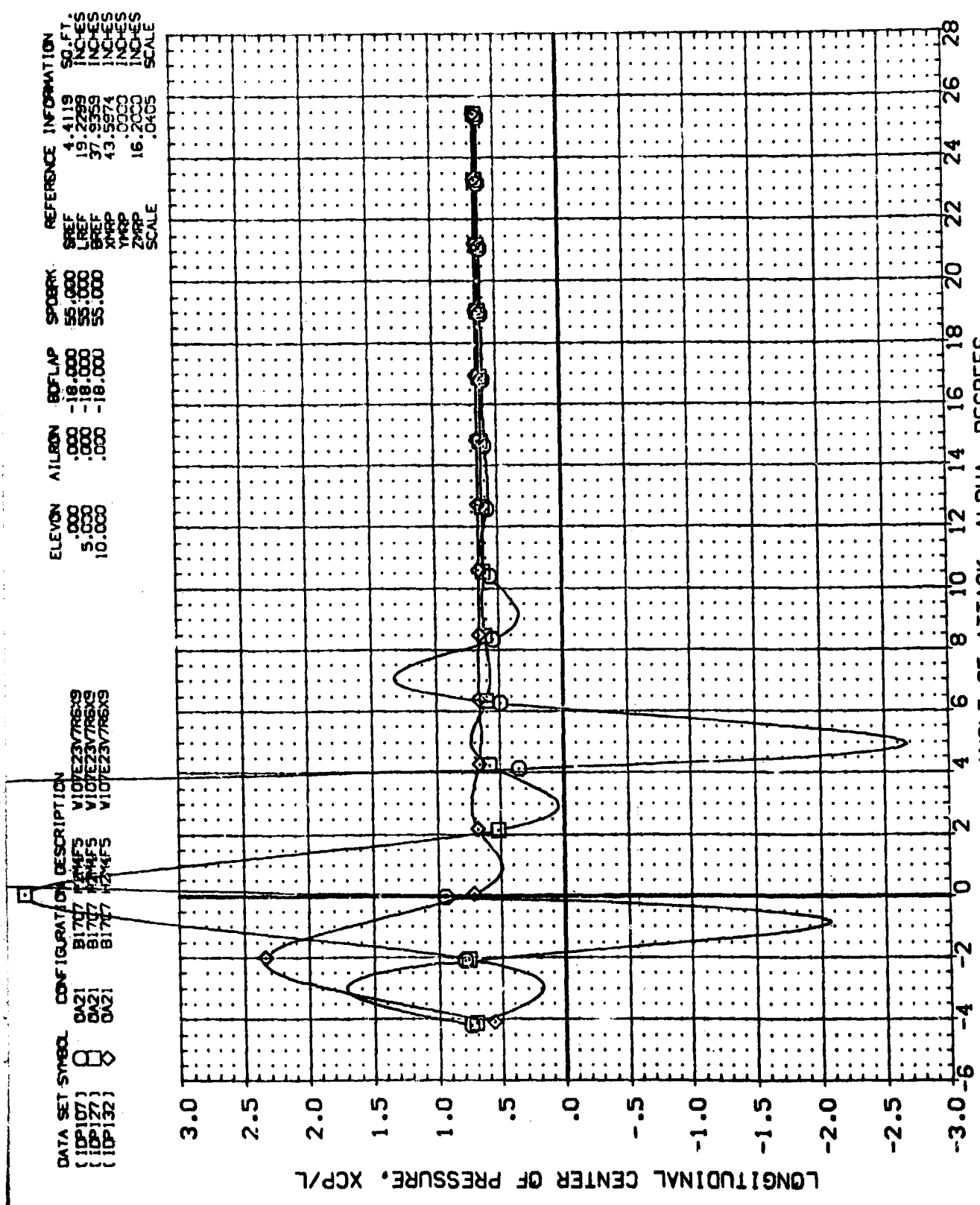


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
[1D107]	0A21 B17C7 H2M4FS V107E23V7RGX9
[1D127]	0A21 B17C7 H2M4FS V107E23V7RGX9
[1D132]	0A21 B17C7 H2M4FS V107E23V7RGX9

ELEVON AILRON BOFLAP SPOBRK

ELEVON	AILRON	BOFLAP	SPOBRK
.000	.000	-18.000	55.000
5.000	.000	-18.000	55.000
10.000	.000	-18.000	55.000

REFERENCE INFORMATION

REFERENCE INFORMATION	SO. FT.
SREF	4.4119
LREF	19.2299
BREF	37.9359
XREF	43.5974
YREF	.0000
ZREF	16.2000
SCALE	.0405

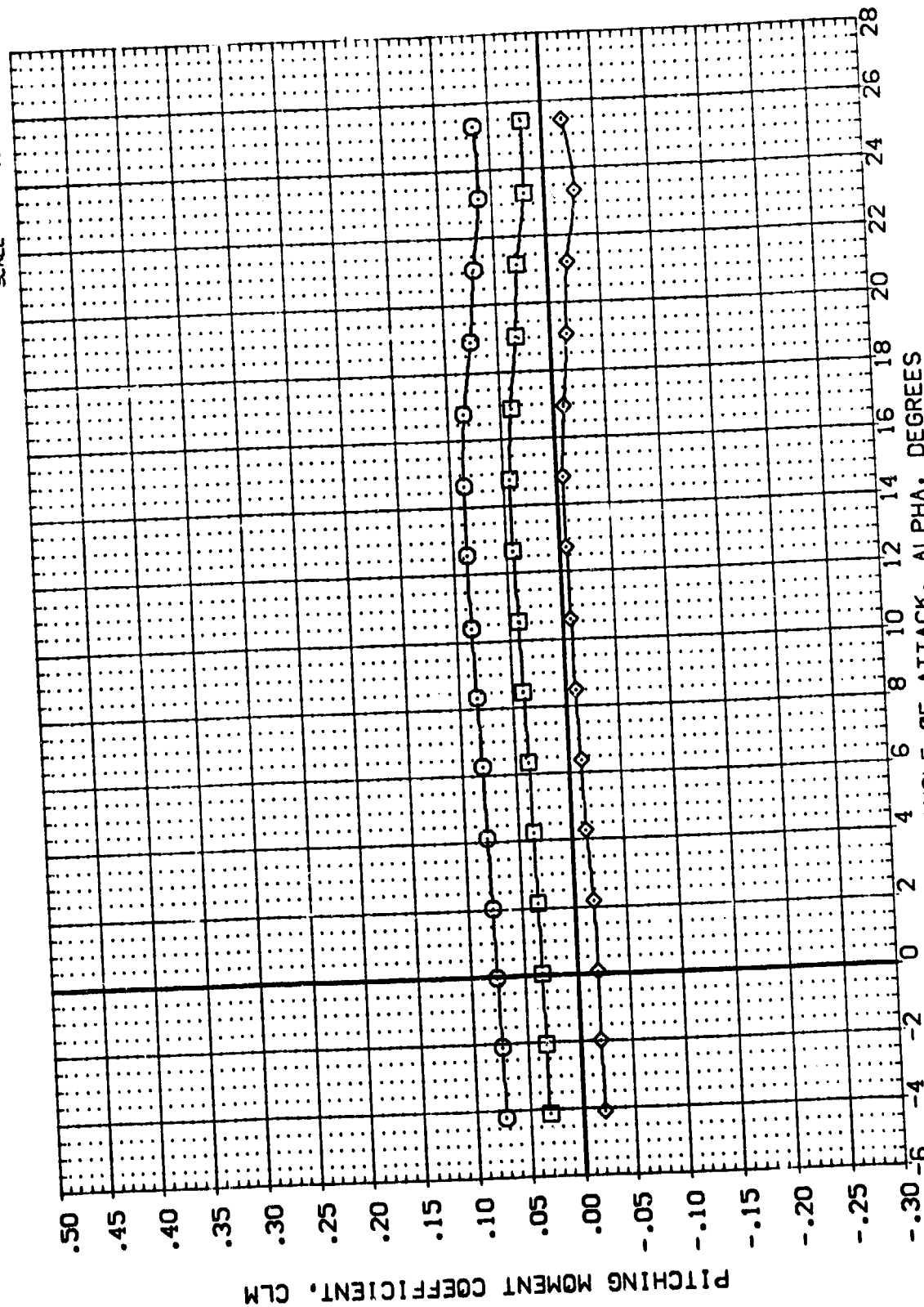


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 0A21  
 CONFIGURATION DESCRIPTION: B17C7 HQ4F5 V107E23V7R6X9  
 (00P132)

MAXELE: 10.000  
 DELELE: 10.000  
 EOLAP: -18.000  
 SPDRM: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ. FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XTRP: 43.5974 INCHES  
 YTRP: 16.0000 INCHES  
 ZTRP: 16.2000 INCHES  
 SCALE: .0405

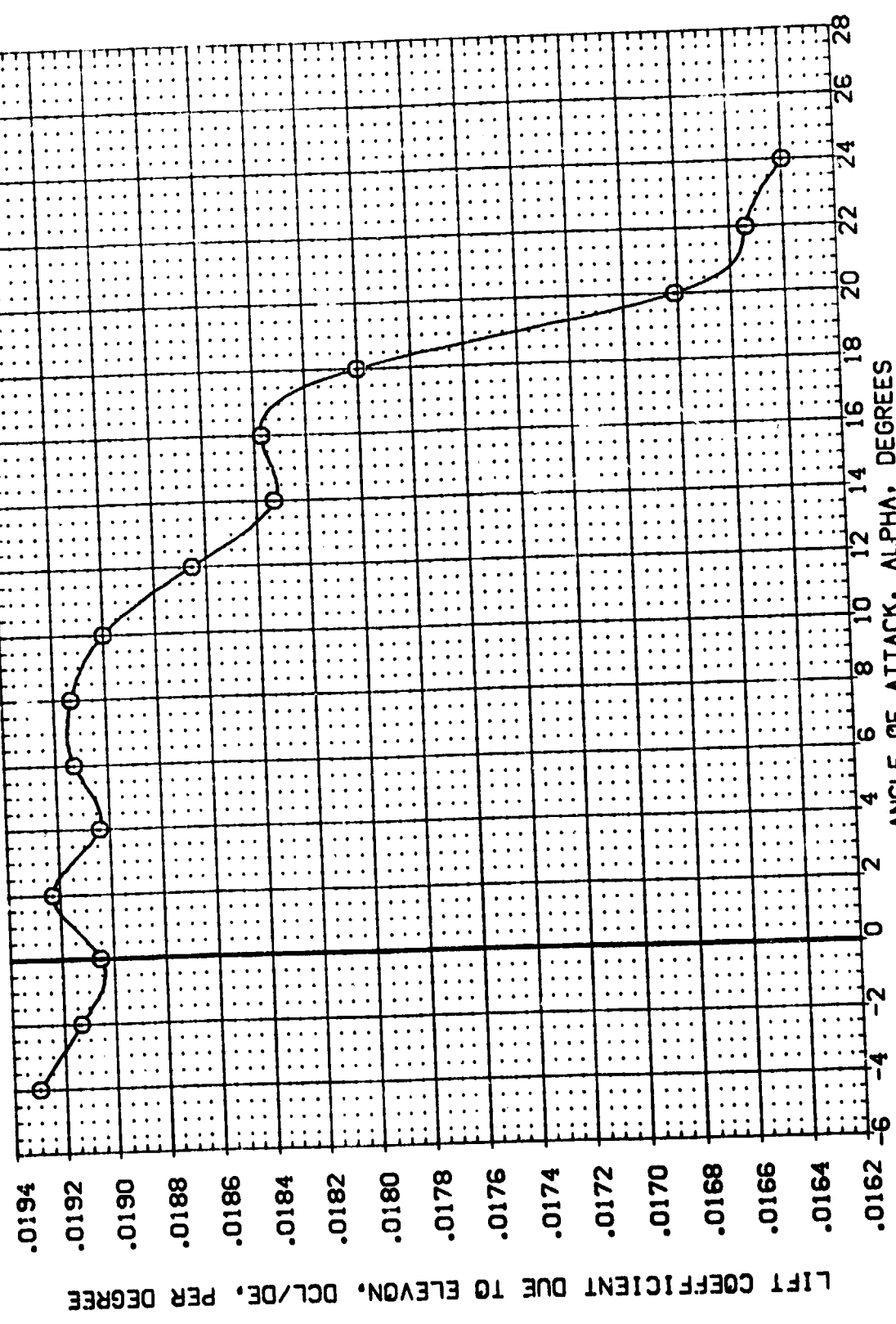


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL (COP132) O QAZ1 B17C7 HQM4FS V107E23V7R6X9

MAXELE 10.000 DELELE 10.000 BOFLAP -18.000 SPOBRK 55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .04CS

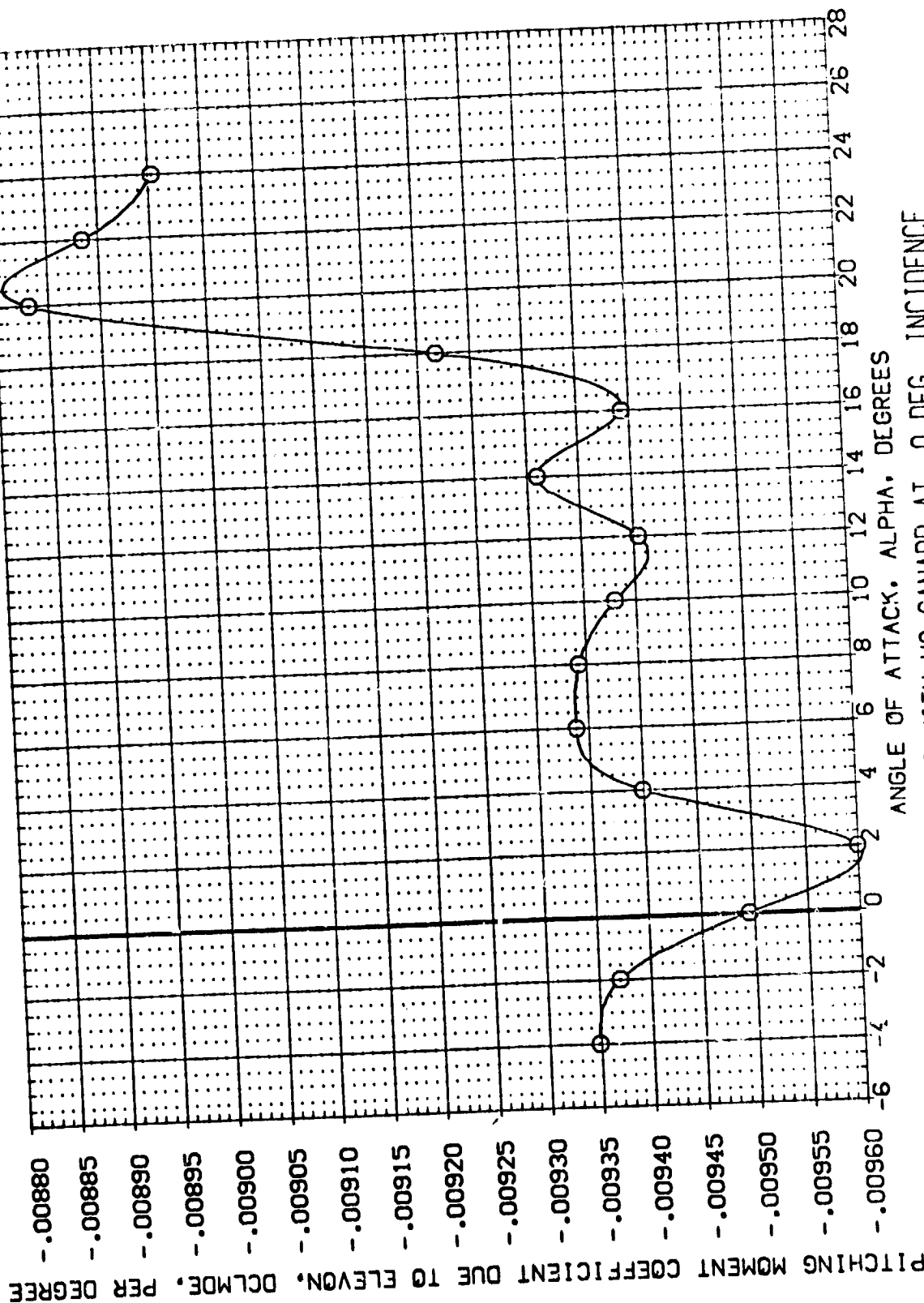


FIGURE 8 ELEVON EFFECTIVENESS WITH H2 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	EDFLAP	SPDRK	REFERENCE INFORMATION
(ID108)	0A21 B17C7 H2MFS V107E23V7R6X9	.000	.000	-18.000	55.000	WREF 4.4119 90.00 INCHES
(ID128)	0A21 B17C7 H2MFS V107E23V7R6X9	5.000	.000	-18.000	55.000	LREF 19.2789 100.00 INCHES
(ID131)	0A21 B17C7 H2MFS V107E23V7R6X9	10.000	.000	-18.000	55.000	WREF 37.5359 100.00 INCHES
						XREF 43.5974 100.00 INCHES
						WREF 16.2000 100.00 INCHES
						SCALE .0405

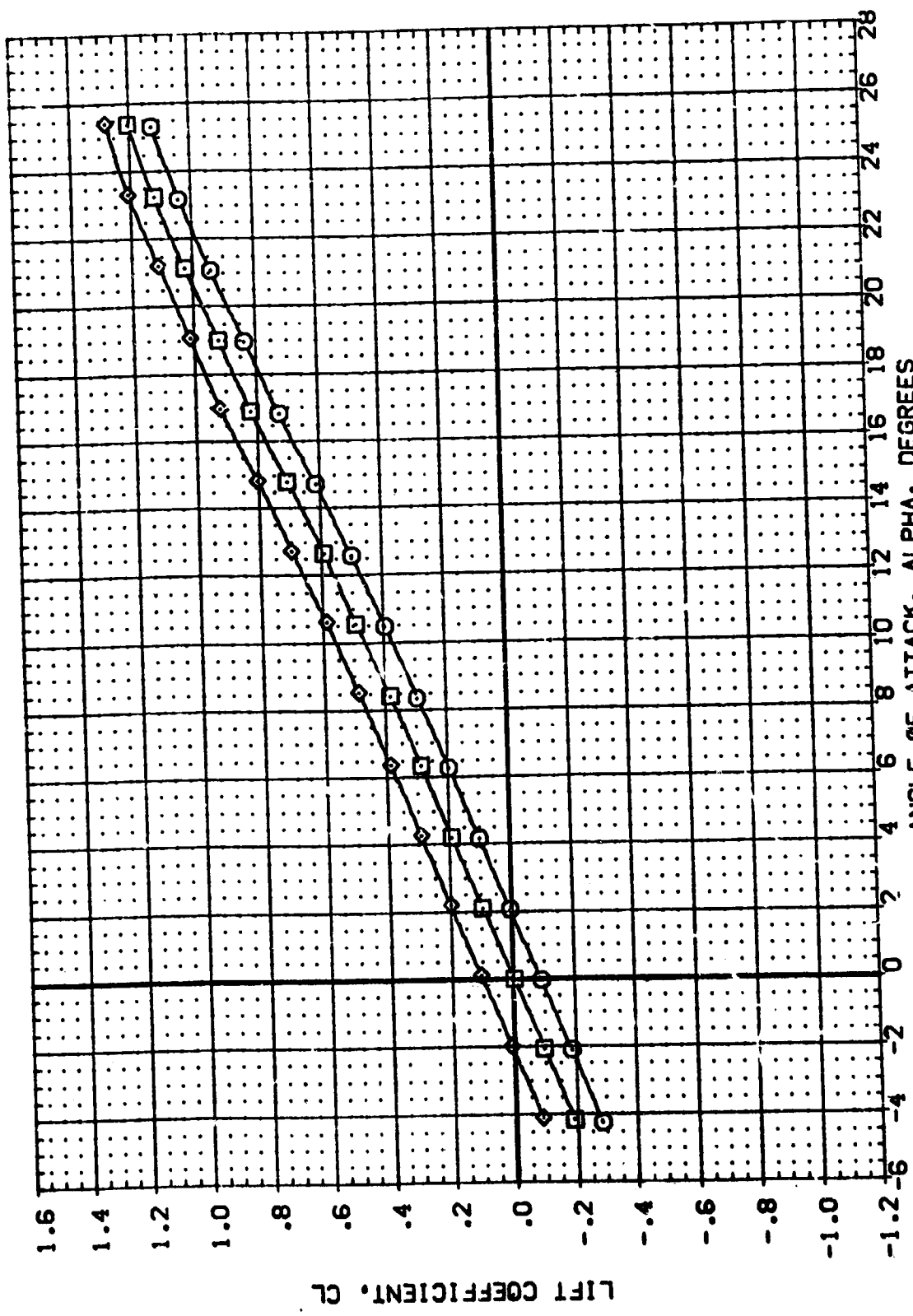


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOELAP	SPDRK	REFERENCE INFORMATION
(IDP103)	0A21 B17C7 H2M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4113 SQ.FT.
(IDP128)	0A21 B17C7 H2M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(IDP131)	0A21 B17C7 H2M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9559 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

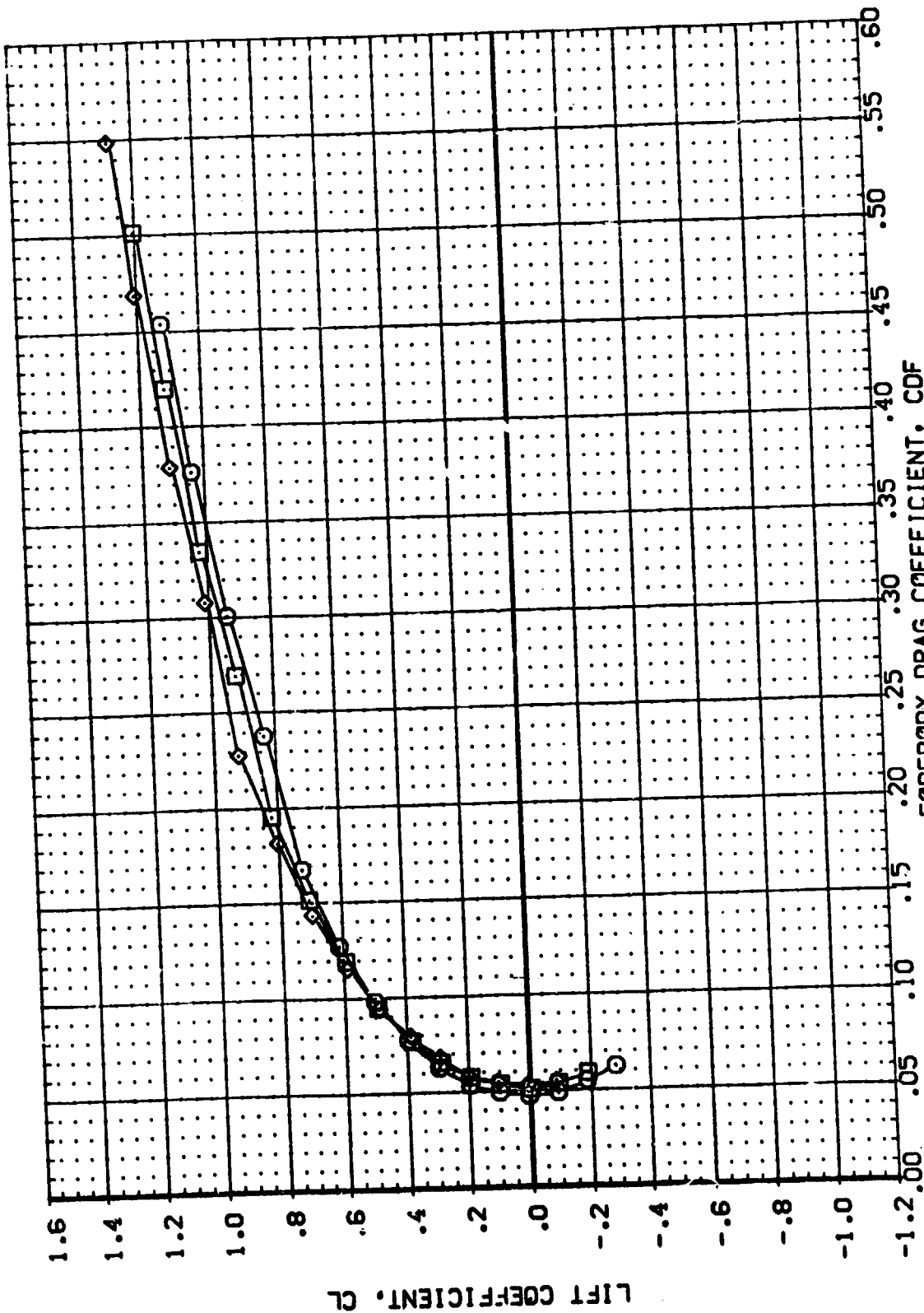


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	EDFLAP	SPINBAR	REFERENCE INFORMATION
(DP108)	0A21 B17C7 H2M4F5 V107E23V7R6X5	.000	.000	-18.000	50.000	4.4119 50.000 IN-ES
(DP128)	0A21 B17C7 H2M4F5 V107E23V7R6X5	5.000	.000	-18.000	50.000	19.2299 50.000 IN-ES
(DP131)	0A21 B17C7 H2M4F5 V107E23V7R6X5	10.000	.000	-18.000	50.000	37.9358 50.000 IN-ES
						43.5874 50.000 IN-ES
						16.2000 50.000 IN-ES
						SCALE

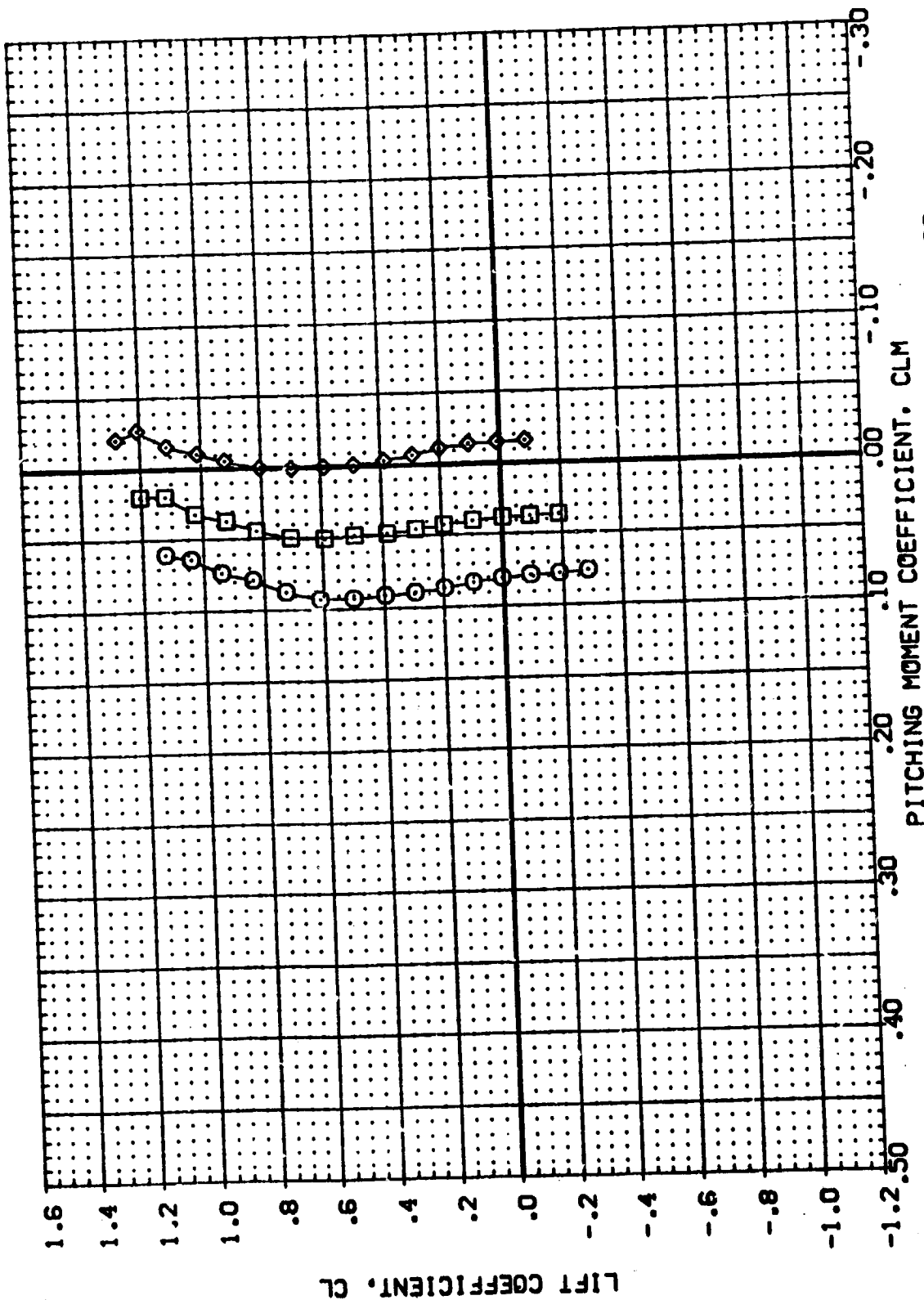


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .25

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(IDP102)	0A21	817C7 H2MF5	V107E23V7R6A9
(IDP128)	0A21	817C7 H2MF5	V107E23V7R6A9
(IDP131)	0A21	817C7 H2MF5	V107E23V7R6A9

ELEVON AILIRON BOFLAP SPOILER

.000	.000	-18.000	55.000
5.000	.000	-18.000	55.000
10.000	.000	-18.000	55.000

REFERENCE INFORMATION

SREF	4.4119	50. FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

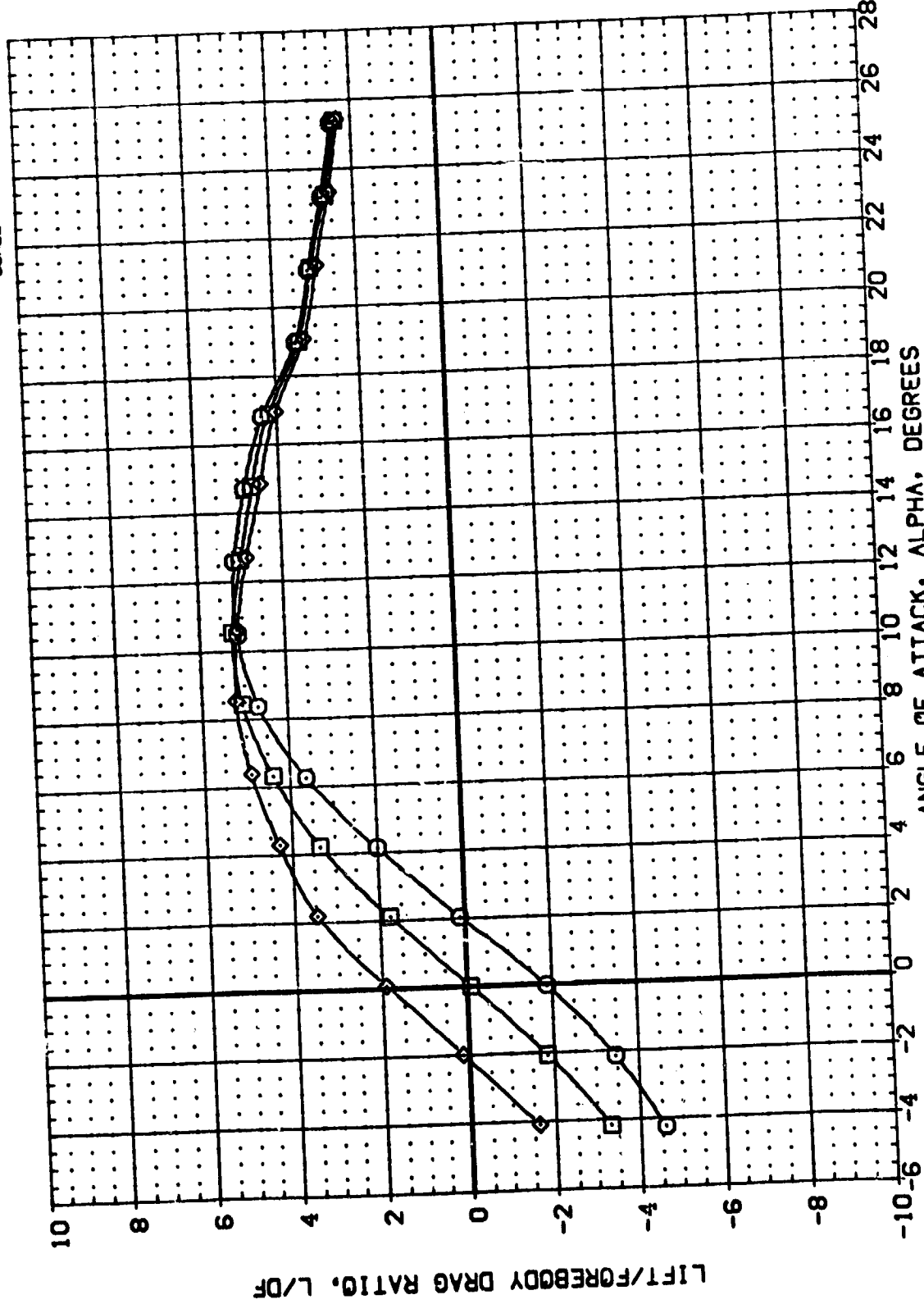


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AIRLON	BOFLAP	SPORWK	REFERENCE INFORMATION
(IDP108)	0A21 B17C7 HQMFS V107E23V7R6X3	.000	.000	-18.000	55.000	SREF 4.4119 50.000
(IDP128)	0A21 B17C7 HQMFS V107E23V7R6X3	5.000	.000	-18.000	55.000	LREF 19.2299 10.000
(IDP131)	0A21 B17C7 HQMFS V107E23V7R6X3	10.000	.000	-18.000	55.000	SREF 37.5359 10.000
						XREF 43.5974 10.000
						YREF 16.2000 10.000
						ZREF 16.2000 10.000
						SCALE .0405

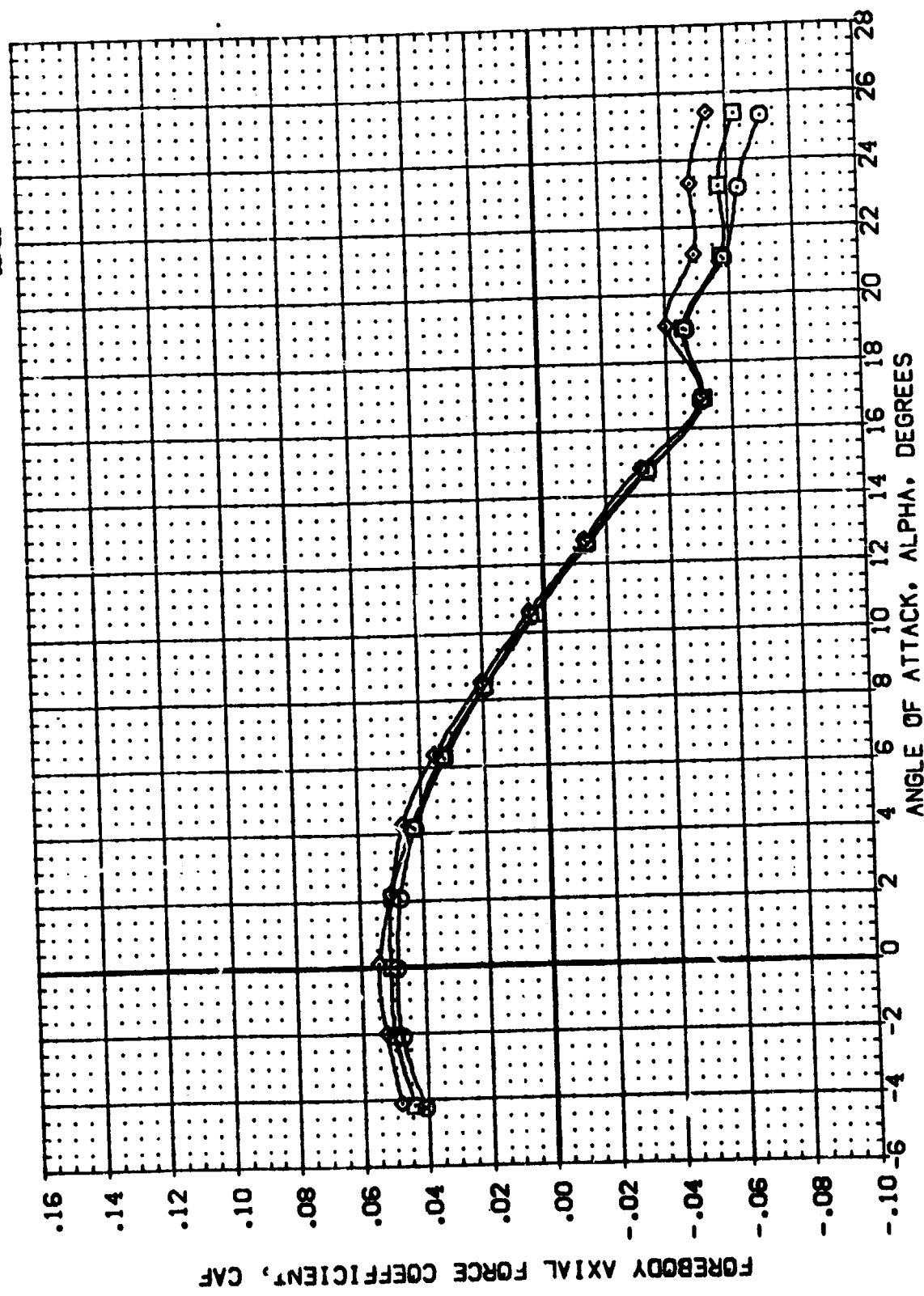


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
{DP108}	QAZ1 B17C7 HQMF5	V107E23V7R6X9
{DP128}	QAZ1 B17C7 HQMF5	V107E23V7R6X9
{DP131}	QAZ1 B17C7 HQMF5	V107E23V7R6X9

ELEVON		AILRON		BOFLAP		SPDRBK		REFERENCE INFORMATION		SQ.FT.	
.000	.000	.000	.000	-18.000	55.000	SREF	4.4119	INCHES		INCHES	
5.000	.000	.000	.000	-18.000	55.000	LREF	19.2299	INCHES		INCHES	
10.000	.000	.000	.000	-18.000	55.000	PRF	37.9359	INCHES		INCHES	
						XRFP	43.5974	INCHES		INCHES	
						YRFP	.0000	INCHES		INCHES	
						ZRFP	16.2000	INCHES		INCHES	
						SCALE	.0405	SCALE		SCALE	

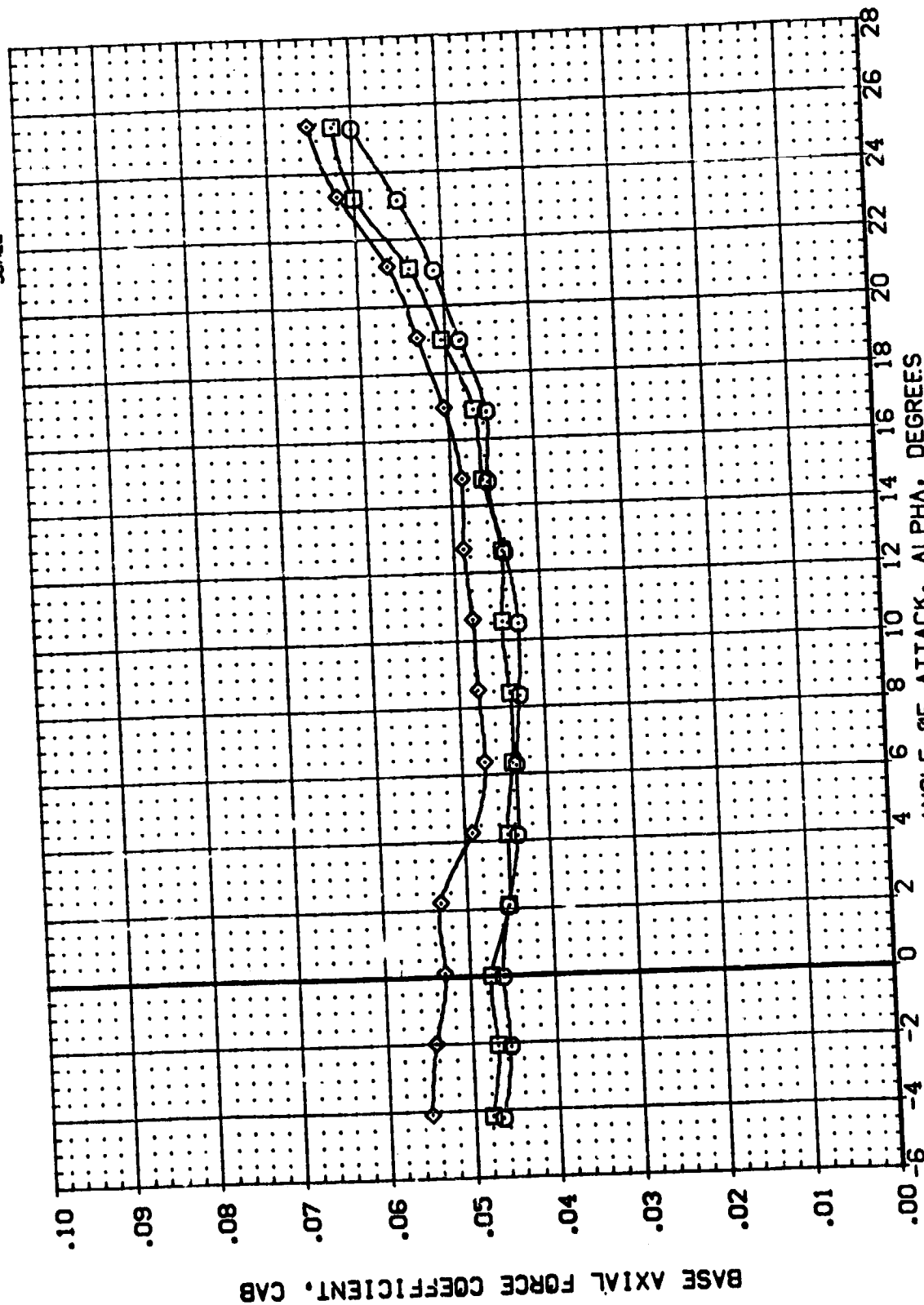


FIGURE 9. ELEVEN EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

$$\{A\}MACH = .26$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (ID:108) 0421 B17C7 HGMF5 V107E23V7R6X5  
 (ID:128) 0421 B17C7 HGMF5 V107E23V7R6X5  
 (ID:131) 0421 B17C7 HGMF5 V107E23V7R6X5

ELEVON AIRLON BOFLAP SPDSBK REFERENCE INFORMATION  
 .000 .000 -18.000 SREF 4.4119 SO.FT.  
 5.000 .000 -18.000 LREF 19.2259 INCHES  
 10.000 .000 -18.000 BREF 37.3359 INCHES  
 .000 .000 -18.000 XMRP 43.5574 INCHES  
 .000 .000 -18.000 YMRP 16.2000 INCHES  
 .000 .000 -18.000 ZMRP 16.2000 INCHES  
 SCALE .0405

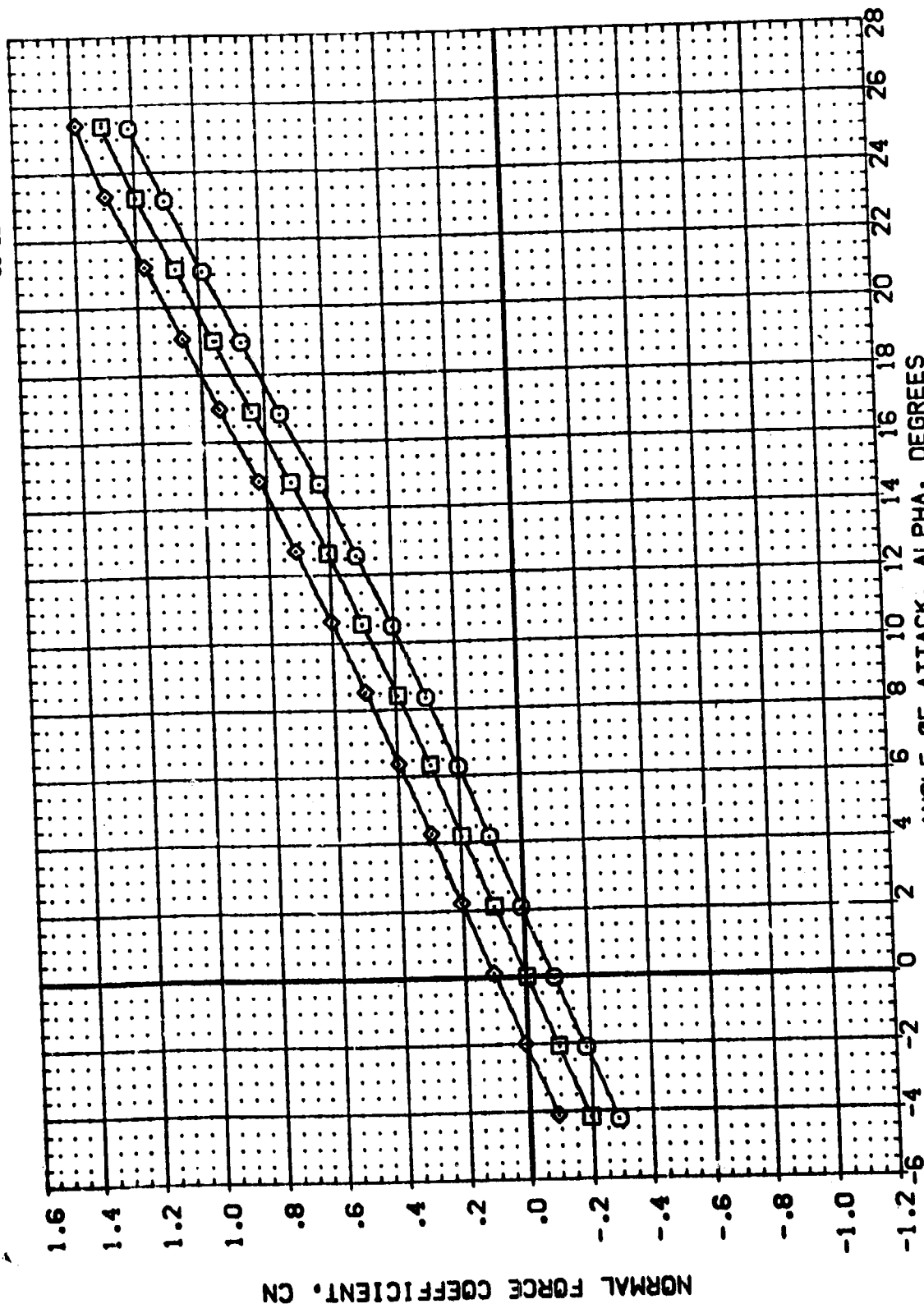


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(MACH = .26

REFERENCE INFORMATION

SREF	4.4119	SO. FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	0.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ELEVON AILRON BOFLAP SPOBRK

ELEVON	0.000	0.000	55.000
AILRON	0.000	-18.000	55.000
BOFLAP	0.000	-18.000	55.000
SPOBRK	0.000	-18.000	55.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(1D108)	0A21	81707	H2MFS	V107E23V/R6X9
(1D128)	0A21	81707	H2MFS	V107E23V/R6X9
(1D131)	0A21	81707	H2MFS	V107E23V/R6X9

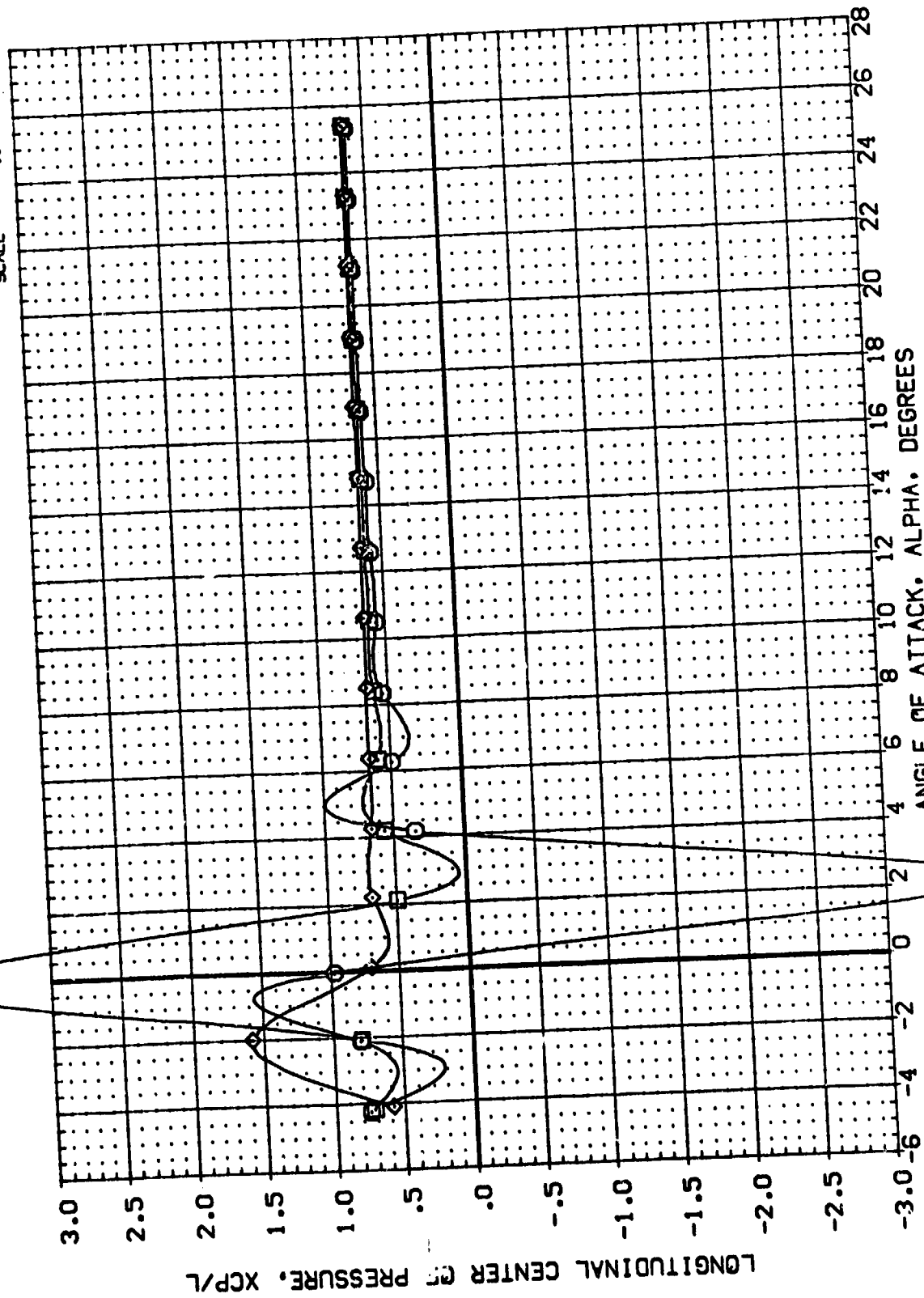


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: [IDP108] [IDP128] [IDP131]  
 CONFIGURATION DESCRIPTION: 0A21 817C7 KGM4F5 V107E23V7R6X9  
 0A21 817C7 KGM4F5 V107E23V7R6X9  
 0A21 817C7 KGM4F5 V107E23V7R6X9

ELEVON: 0.000, 5.000, 10.000  
 AILERON: 0.000, 0.000, 0.000  
 BOFLAP: -18.000, -18.000, -18.000  
 SPOILER: 55.000, 55.000, 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 INCHES  
 LREF: 19.2288 INCHES  
 BREF: 37.9358 INCHES  
 XMRP: 43.5874 INCHES  
 YMRP: 0.0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

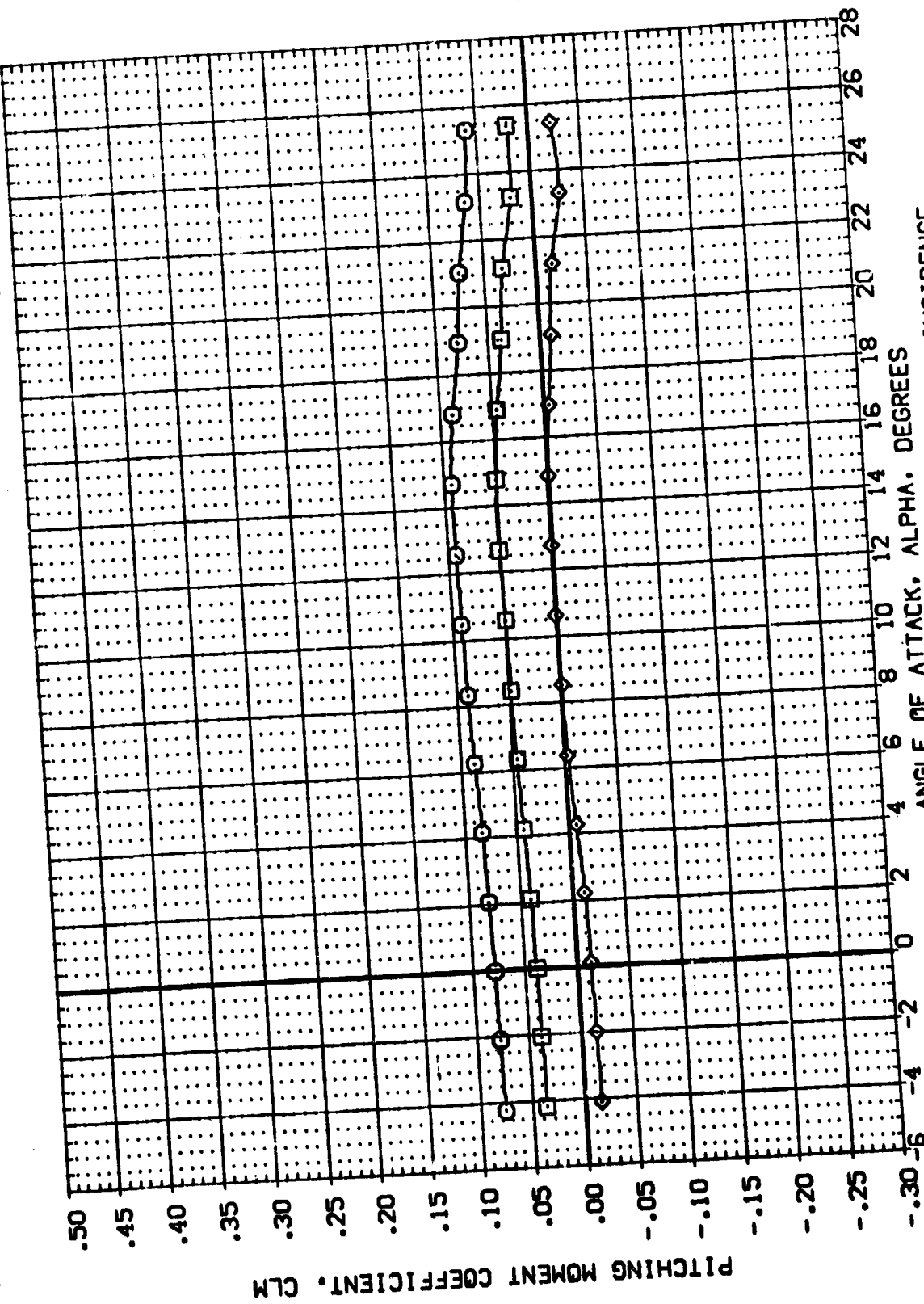


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 0A21  
 CONFIGURATION DESCRIPTION: B17C7 H2M4FS V107E23V7R6X9  
 (00P131)

MAXELE: 10.000  
 DELELE: 10.000  
 BOFLAP: -18.000  
 SPDBRK: 55.000

REFERENCE INFORMATION  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: 0.0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

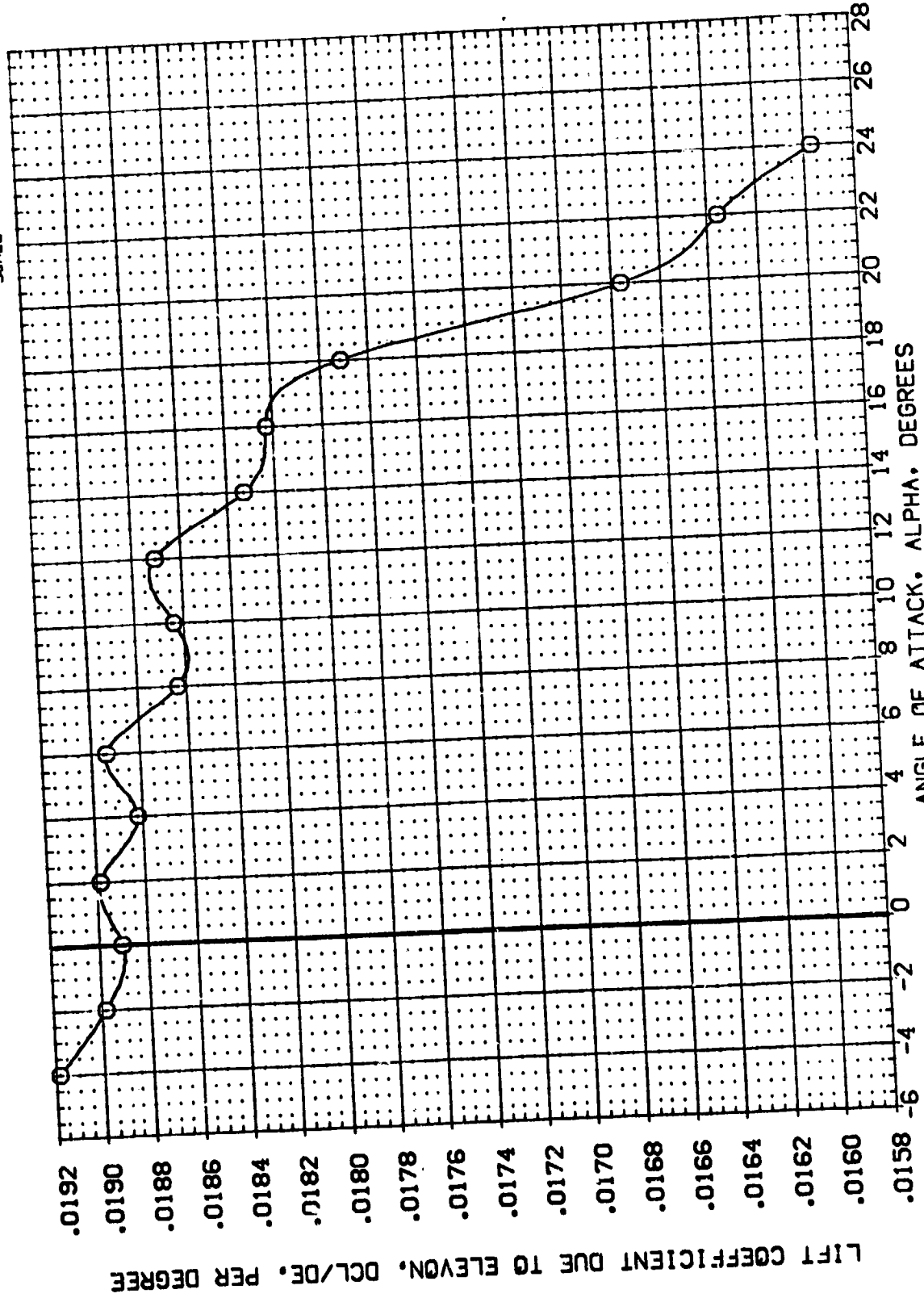


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 00P1311  
 CONFIGURATION DESCRIPTION: 0A21 817C7 H2M4F5 V107E23V7R6N3

MAXELE 10.000  
 DELELE 10.000  
 BOFLAP -18.000  
 SPOBRK 55.000  
 REFERENCE INFORMATION:  
 SREF 4.4119 SO.FT. INCHES  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 16.2000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

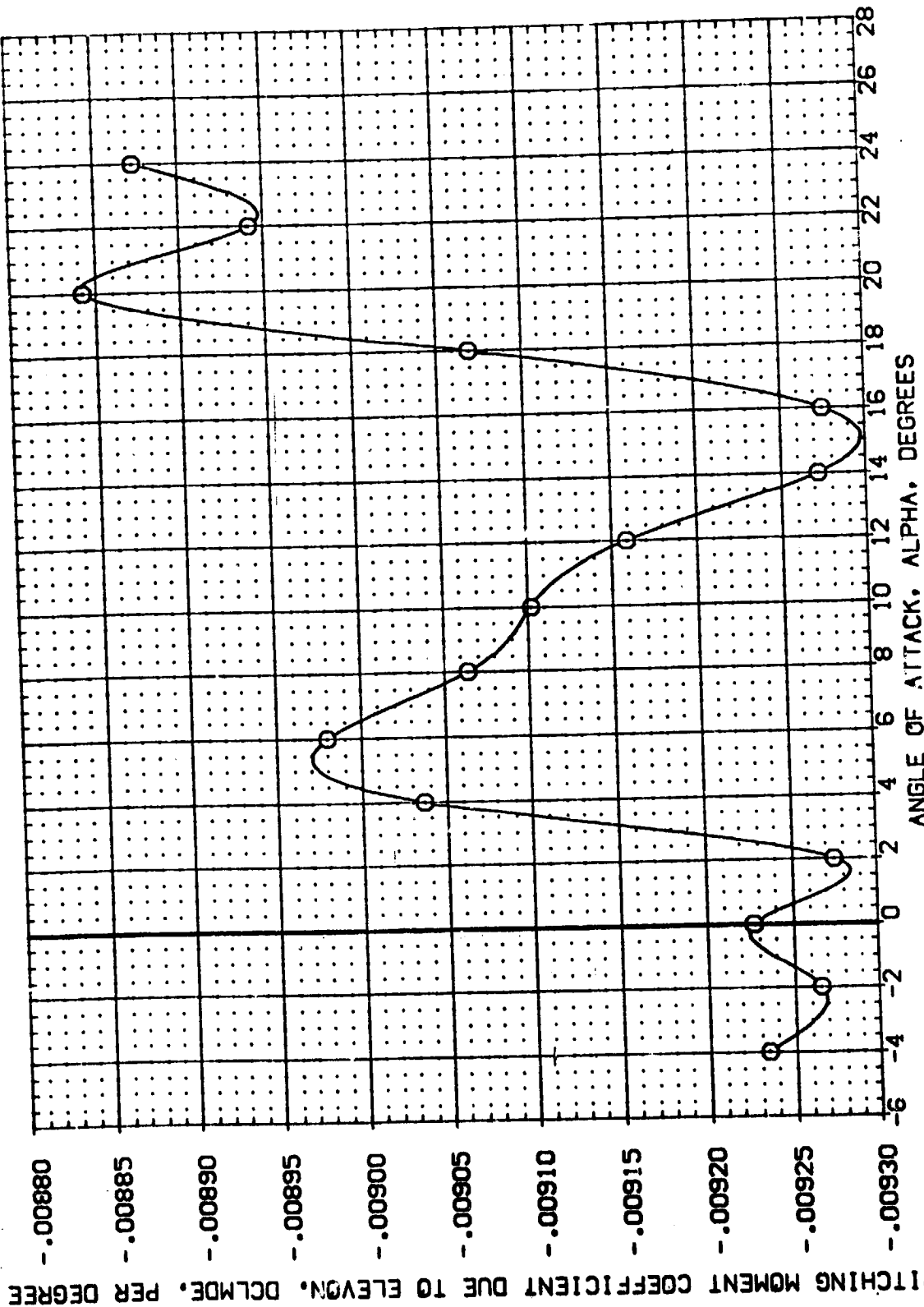


FIGURE 9 ELEVON EFFECTIVENESS WITH H2 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL  
 (10P109)  
 (10P128)  
 (10P130)

CONFIGURATION DESCRIPTION  
 DA21 B17C7 H2M4FS V107E23V7R6X9  
 DA21 B17C7 H2M4FS V107E23V7R6X9  
 DA21 B17C7 H2M4FS V107E23V7R6X9

ELEVON ALL IN BOFLAP SPOBRK  
 .000 .000 .000 55.000  
 5.000 .000 .000 55.000  
 10.000 .000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2299 INCHES  
 BREF 37.5359 INCHES  
 YMRP 43.5974 INCHES  
 ZMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

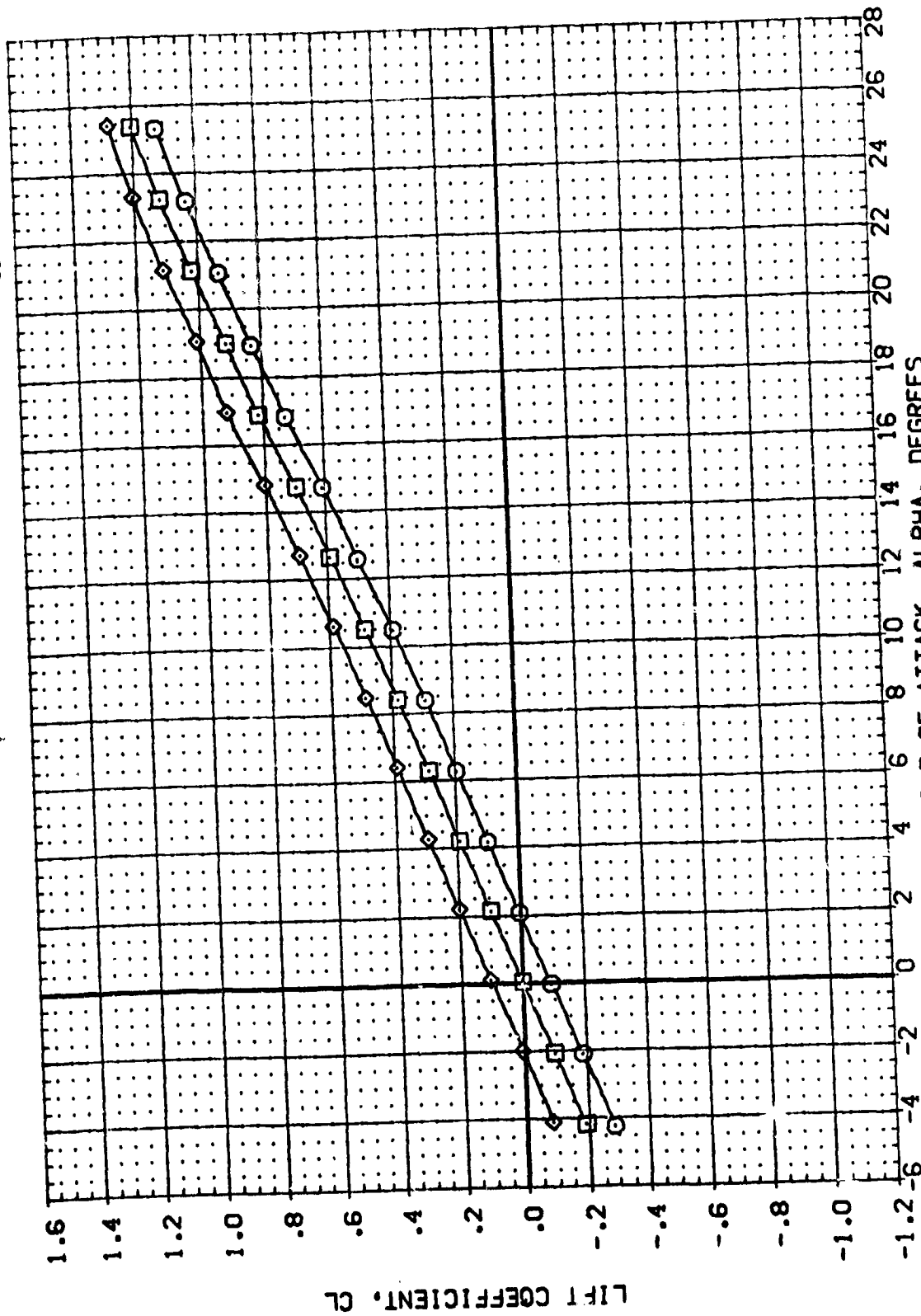


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A) MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILLON	BDLAP	SPEED	REFERENCE INFORMATION
(ID108)	DA21 817C7 H2M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(ID129)	DA21 817C7 H2M4FS V107E23V7R6X9	5.000	.000	-18.000	55.000	LREF 19.2298 INCHES
(ID130)	DA21 817C7 H2M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9352 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

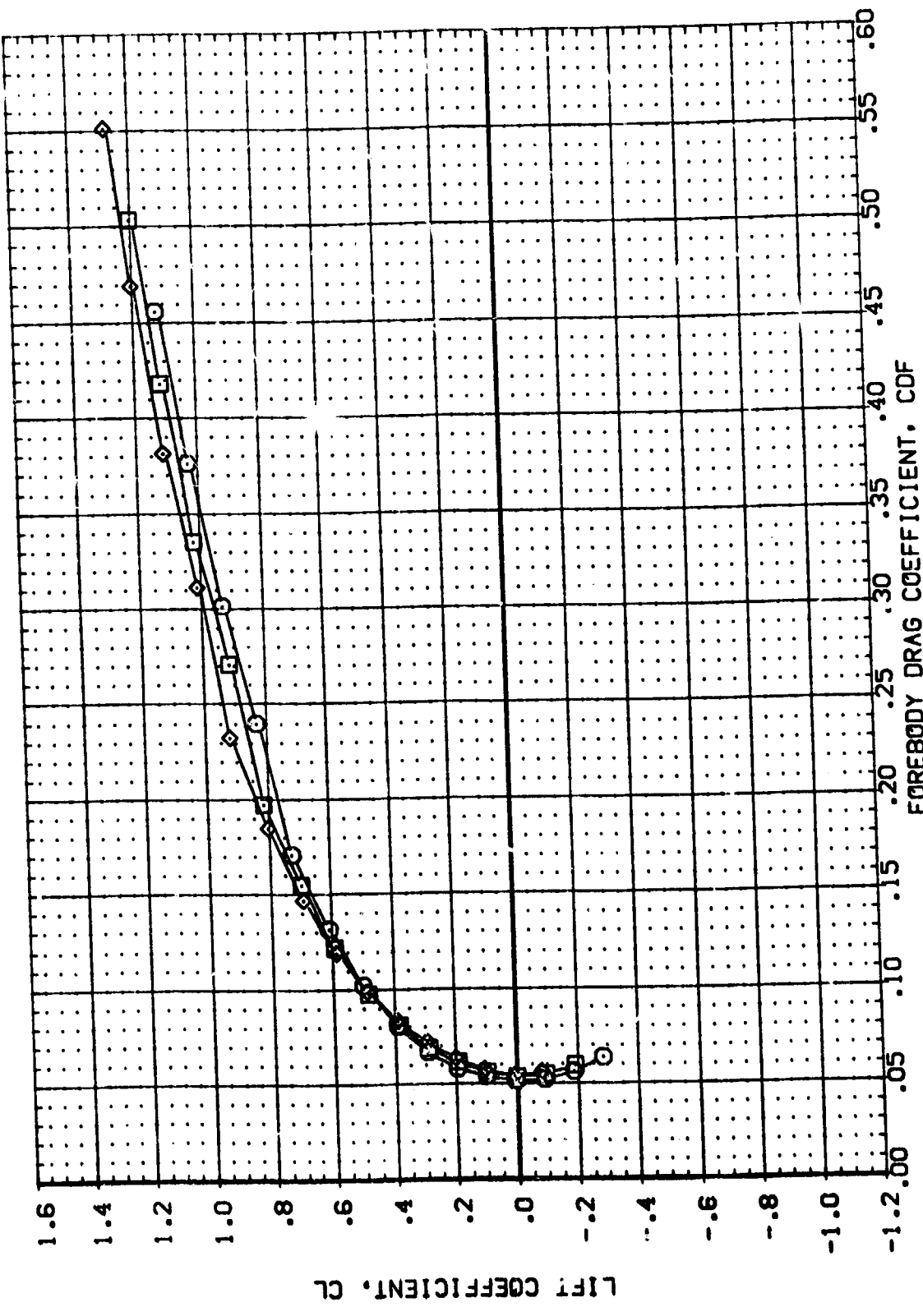


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
5.000	.000	-18.000	55.000	LREF 19.2298 INCHES
10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
				XMRP 43.5974 INCHES
				YMRP .0000 INCHES
				ZMRP 16.2000 INCHES
				SCALE .0405

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(IDP109)	DA21 B17C7 H2M4FS V107E23V7R6X9
(IDP128)	DA21 B17C7 H2M4FS V107E23V7R6X9
(IDP130)	DA21 B17C7 H2M4FS V107E23V7R6X9

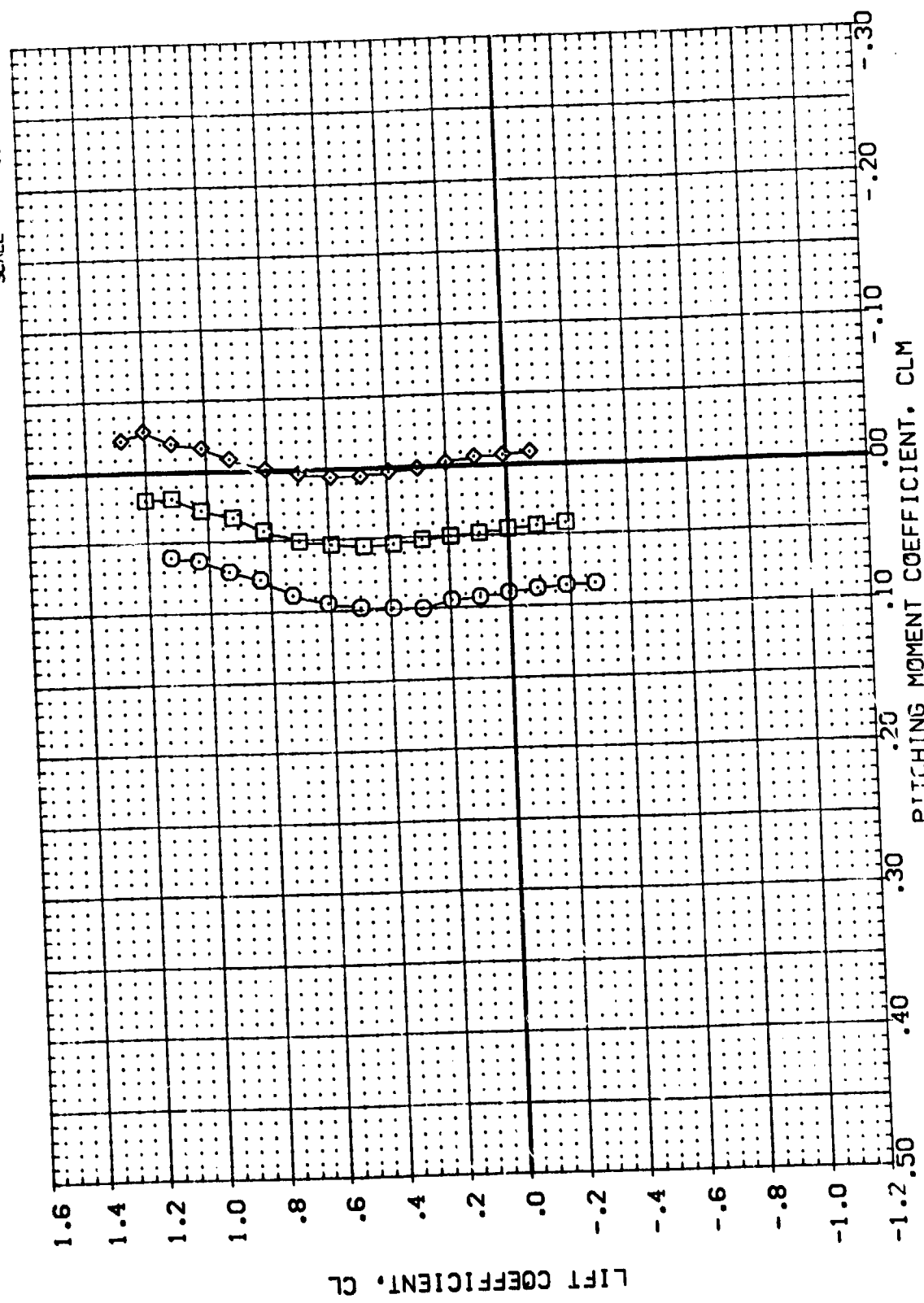


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION  
 (12P108) DA21 817C7 H2M4F3 V107E23V7R6X3  
 (12P129) DA21 817C7 H2M4F3 V107E23V7R6X3  
 (12P130) DA21 817C7 H2M4F3 V107E23V7R6X3

ELEVON ALLIGN BD LAP SPOROK  
 .000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2259 INCHES  
 BREF 37.5359 INCHES  
 YREF 43.5374 INCHES  
 ZREF .0000 INCHES  
 SCALE 16.2000 INCHES  
 .0405

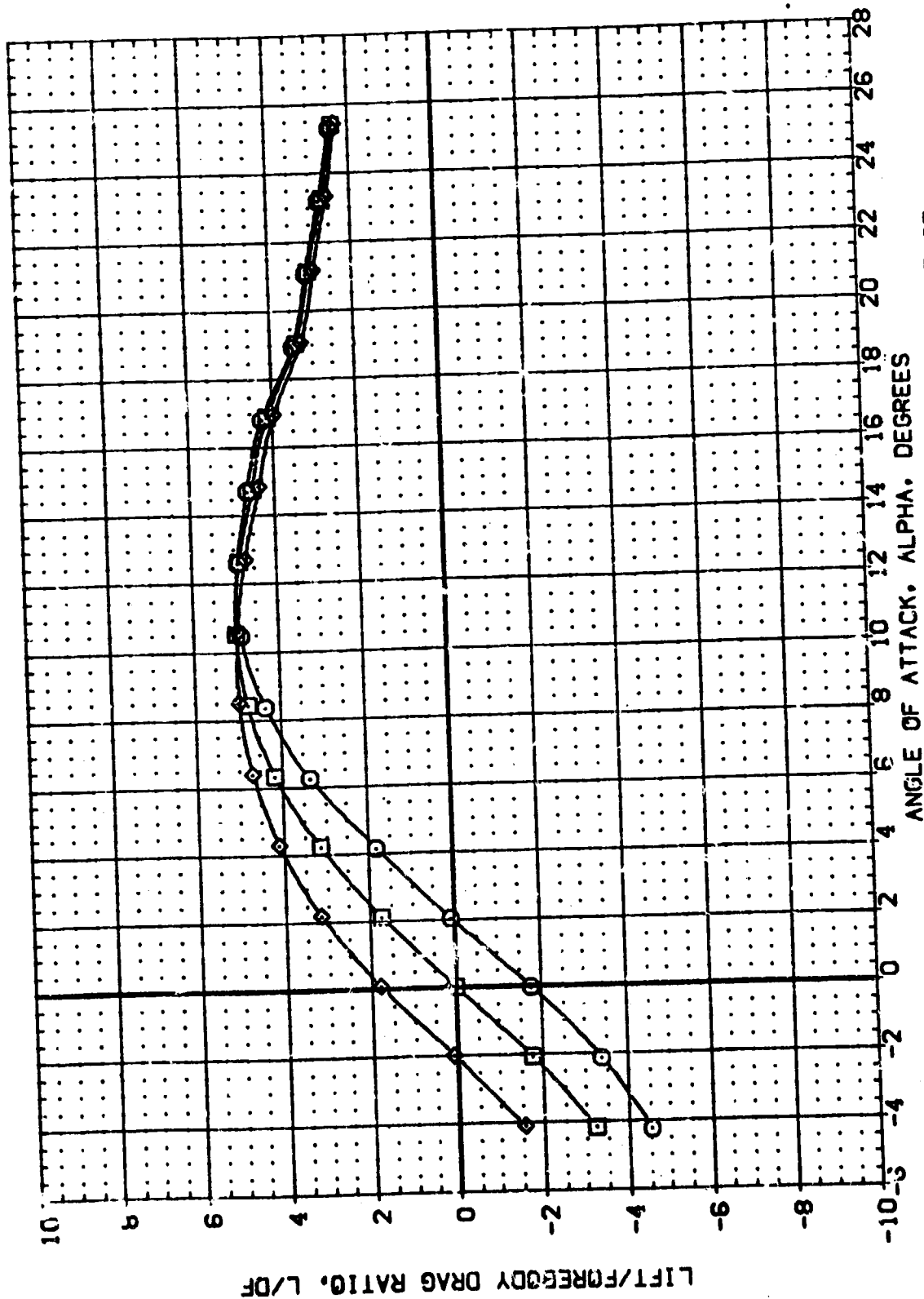


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMOL    CONFIGURATION DESCRIPTION  
 129109    817C7 H2M4FS    V107E23V7R6X8  
 129123    817C7 H2M4FS    V107E23V7R6X8  
 129130    817C7 H2M4FS    V107E23V7R6X8

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 5.000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2289    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0400    INCHES

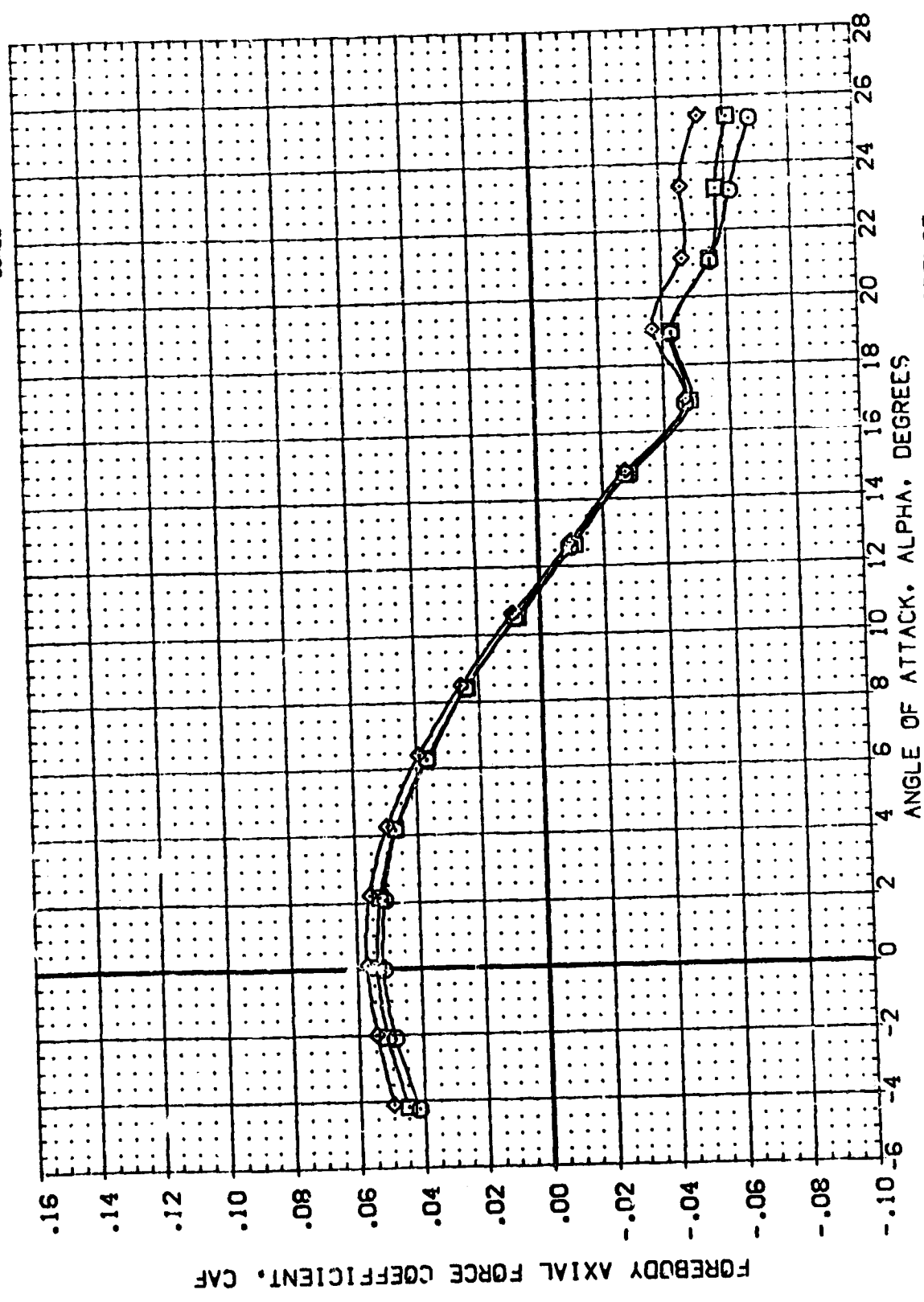


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

CAYACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOILER	REFERENCE INFORMATION
DP123	0A21 817C7 K2M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	4.4119
DP123	0A21 817C7 K2M4F5 V107E23V7R6X9	5.000	.000	-18.000	55.000	19.2208
DP123	0A21 817C7 K2M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	37.9358
						43.5574
						.0000
						.0000
						16.2000
						.0405
						SCALE

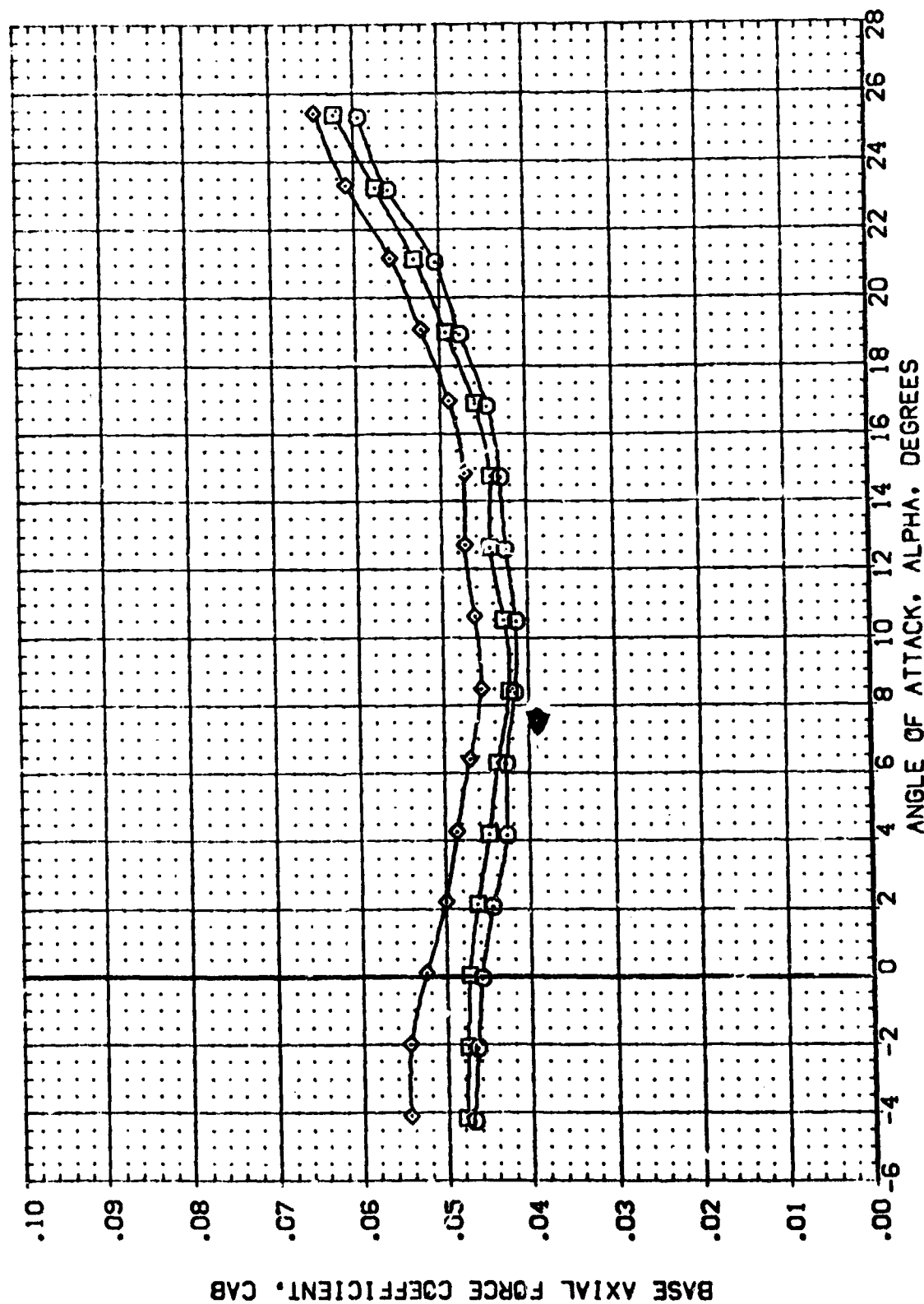


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

REFERENCE INFORMATION  
 SREF 4.4119 SQ. FT.  
 LREF 19.2299  
 BREF 37.9359  
 XREF 43.5974  
 YREF .0000  
 ZREF 16.2000  
 SCALE .0405

ELEVON AIRLON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

DATA SET SYMOL CONFIGURATION DESCRIPTION  
 (08:08) Q 8:707 H2M4FS V107E23V7R6X9  
 (08:29) Q 8:707 H2M4FS V107E23V7R6X9  
 (08:30) Q 8:707 H2M4FS V107E23V7R6X9

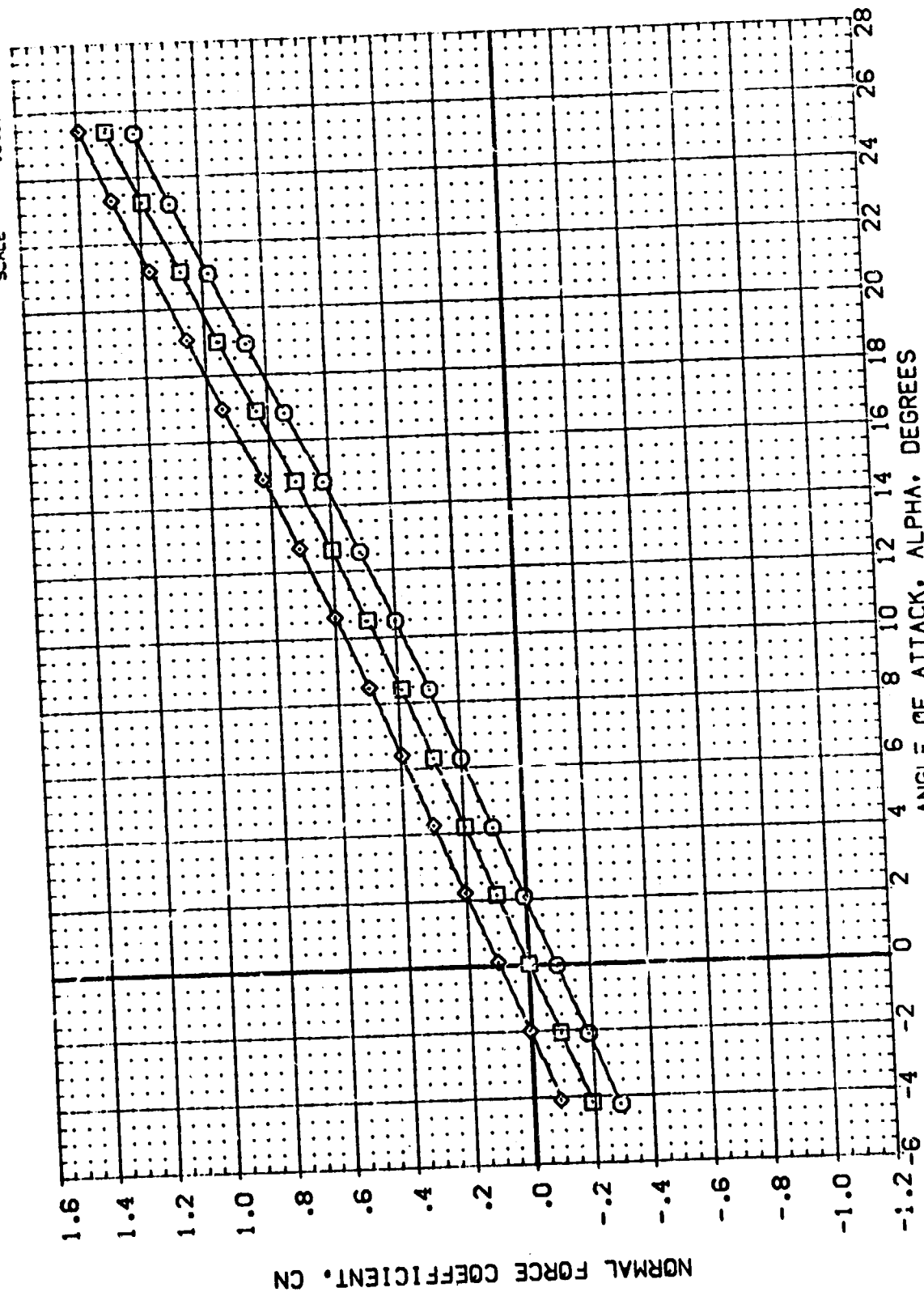
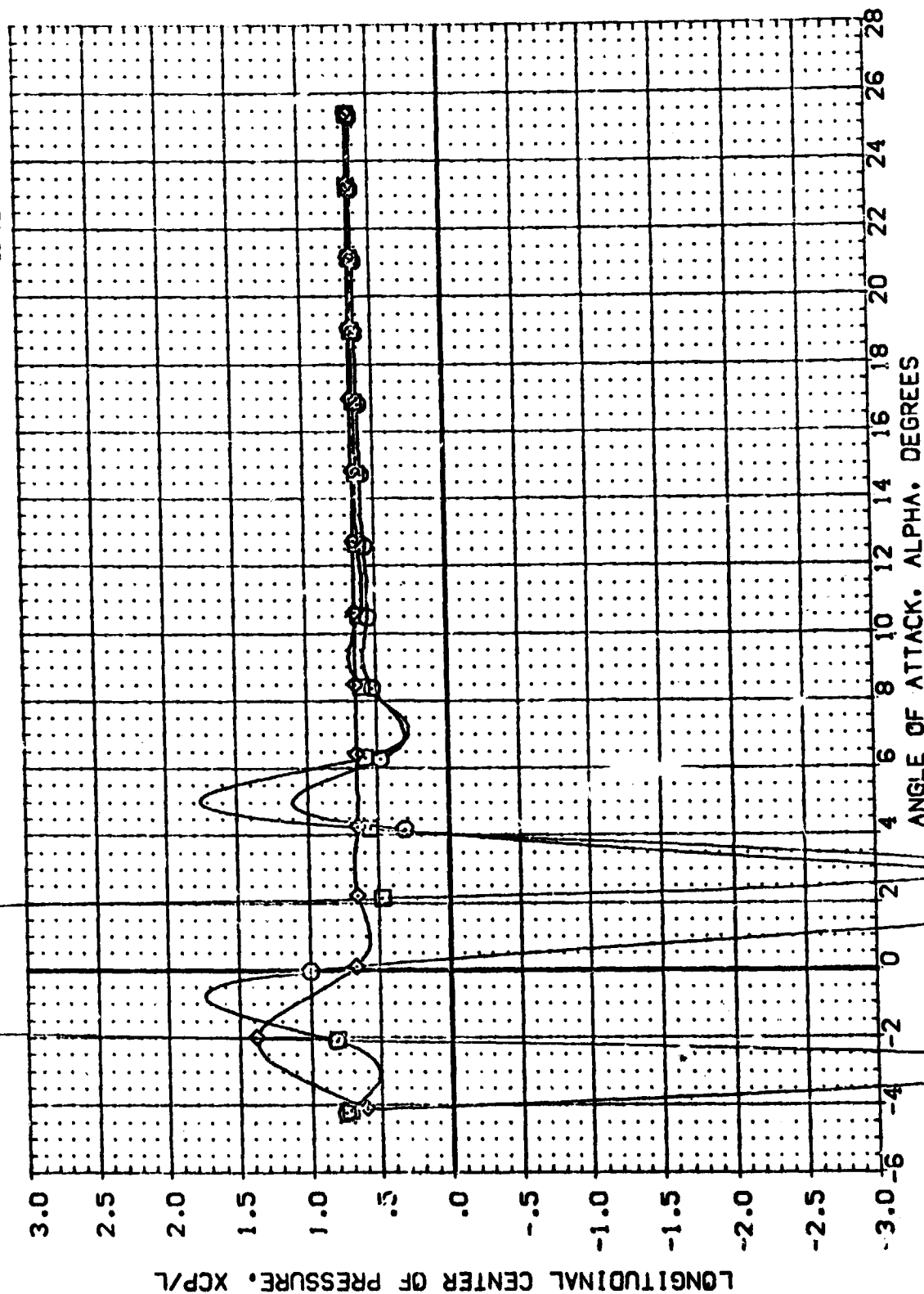


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)YACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP109]	CA21	0.00	0.00	-18.000	55.000	SREF 4.4119
[DP128]	CA21	5.000	0.00	-18.000	55.000	LREF 19.2289
[DP130]	CA21	10.000	0.00	-18.000	55.000	BREF 37.9359
						XREF 43.5974
						YREF 0.0000
						ZREF 16.2000
						SCALE .0405



DATA SET SYSC- CONFIGURATION DESCRIPTION  
 [12-109] 0A21 B17C7 H2M4FS V107E23V7R6X9  
 [12-109] 0A21 B17C7 H2M4FS V107E23V7R6X9  
 [12-130] 0A21 B17C7 H2M4FS V107E23V7R6X9

ELEVON ALLRON BOFLAP SPDRBK  
 .000 .000 .000 .000  
 5.000 -18.000 55.000 55.000  
 10.000 -18.000 55.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SC.FT. INCHES  
 LREF 19.2299 INCHES  
 BREF 37.3359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

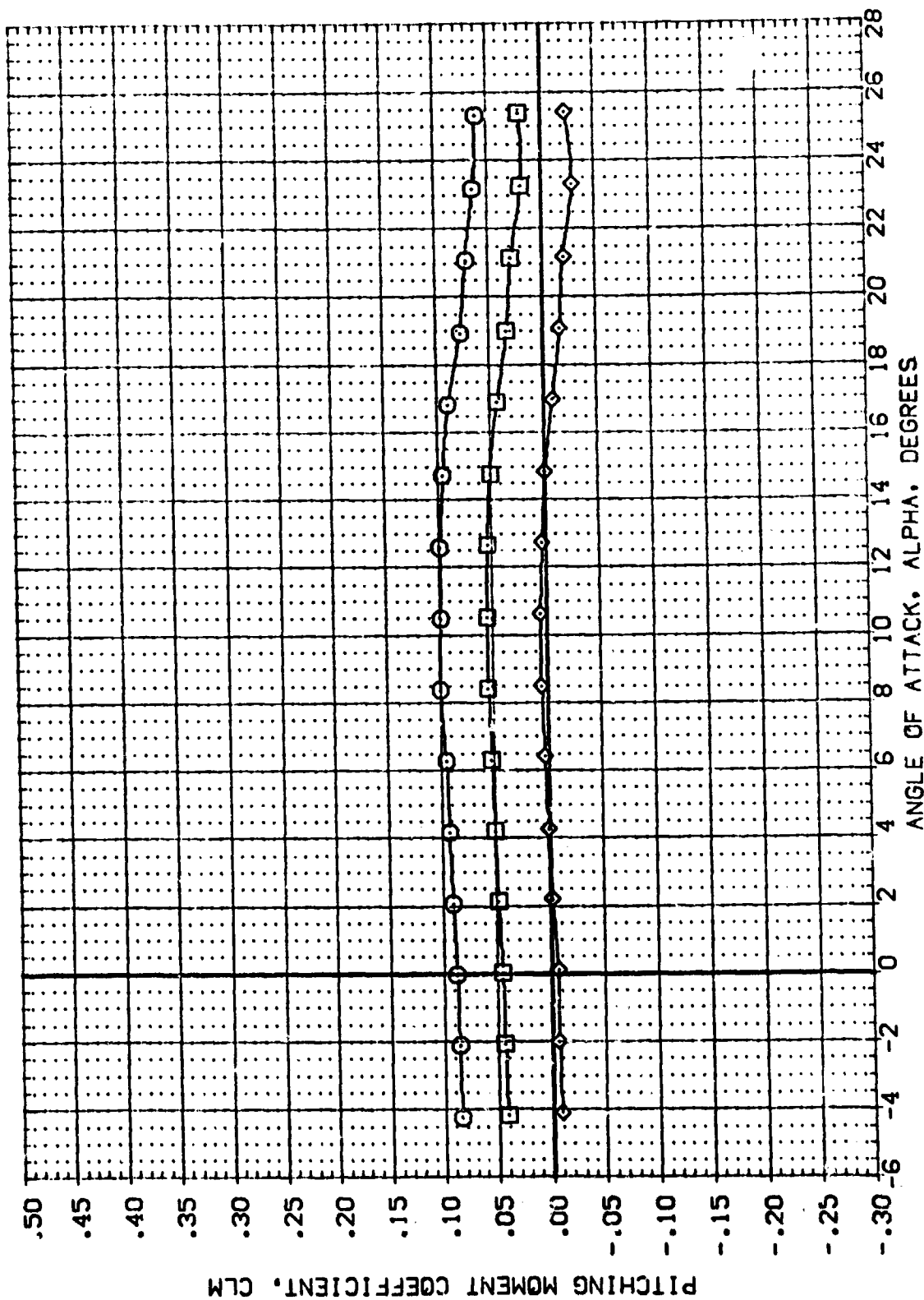


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL: 0 0A21 B17C7 H2M1F5 V107E23V7R6X19  
 CONFIGURATION DESCRIPTION: V107E23V7R6X19

MAXELE 10.000  
 DELELE 10.000  
 BDFLAP -18.000  
 SPOBRK 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2289 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5874 INCHES  
 YMRP 16.2000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

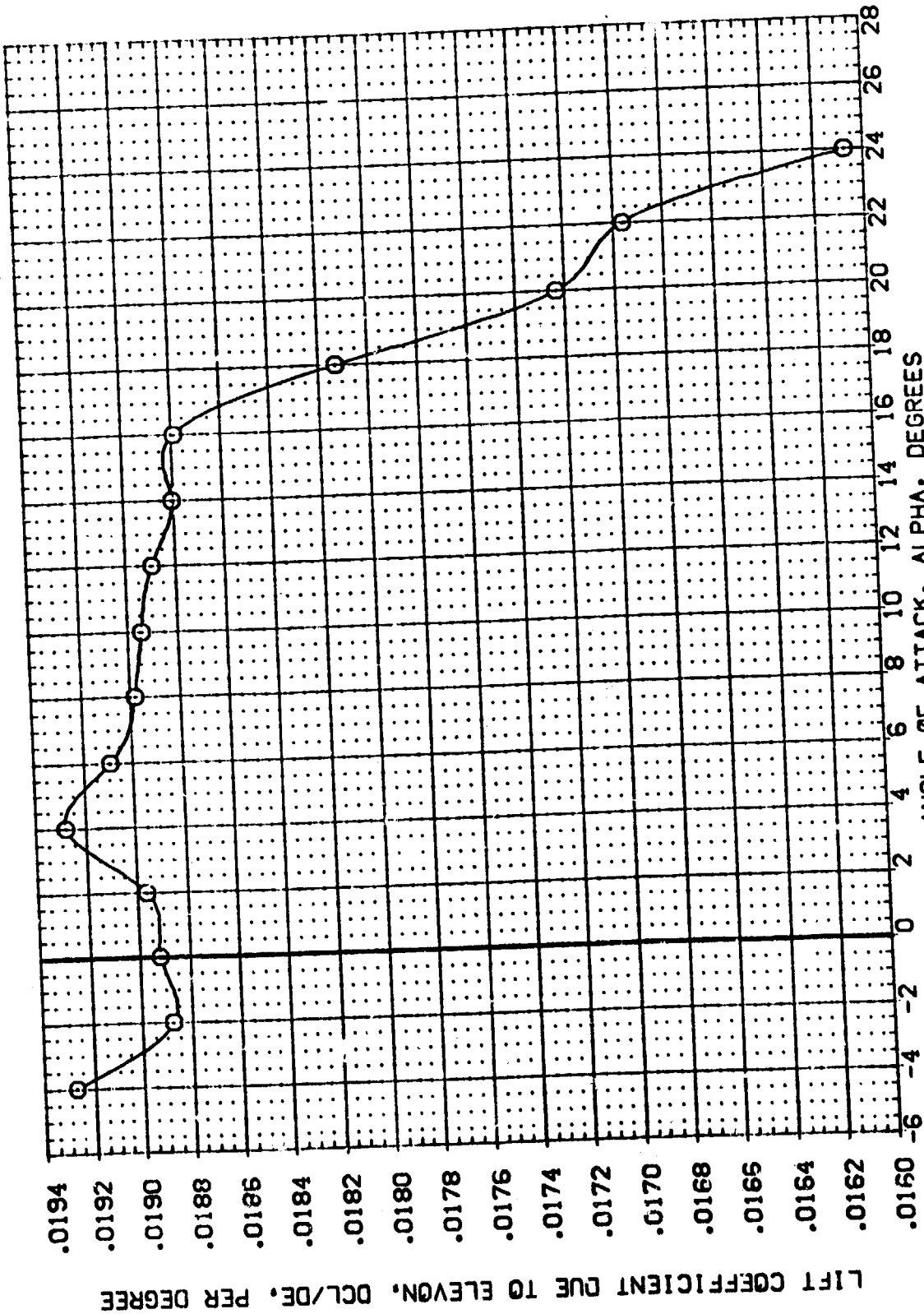


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .25

DATA SET SYSC- (CONF-133) CA21 817C7 H2M4F5 V107E23V7R6X9

MAXELE 10.000 DELELE 10.000 SPOBRK 55.000  
 SREF 4.4119 SQ.FT.  
 LREF 19.2289 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

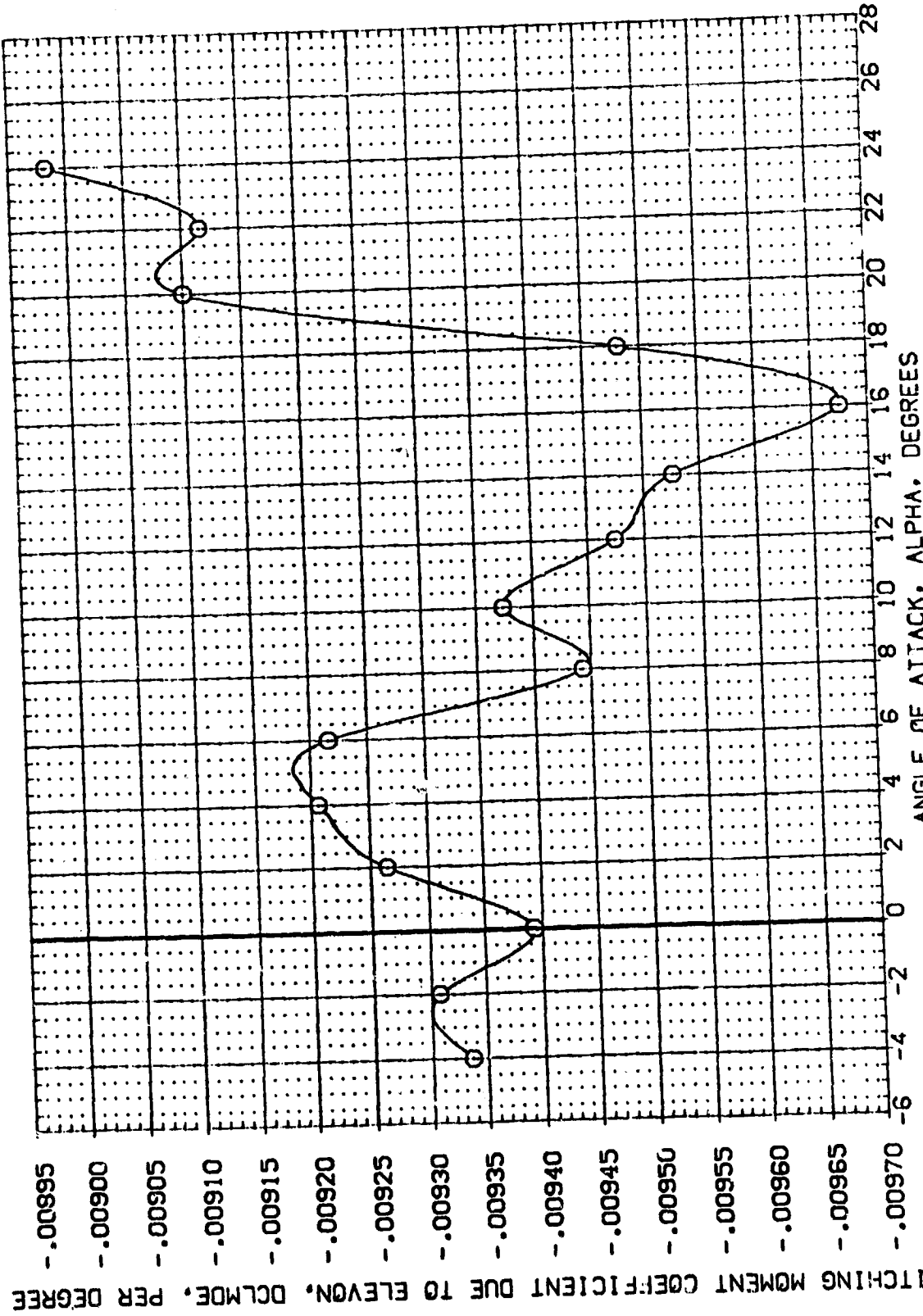


FIGURE 10 ELEVON EFFECTIVENESS WITH H2 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XDP112) 0A21 B17C7H/MF5 V107EZ3V/R6D3  
 (XDP133) 0A21 B17C7H/MF5 V107EZ3V/R6D3

ELEVON AIRLON 80FLAP 80BERK  
 .000 .000 55.000  
 10.000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SO.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

4.4

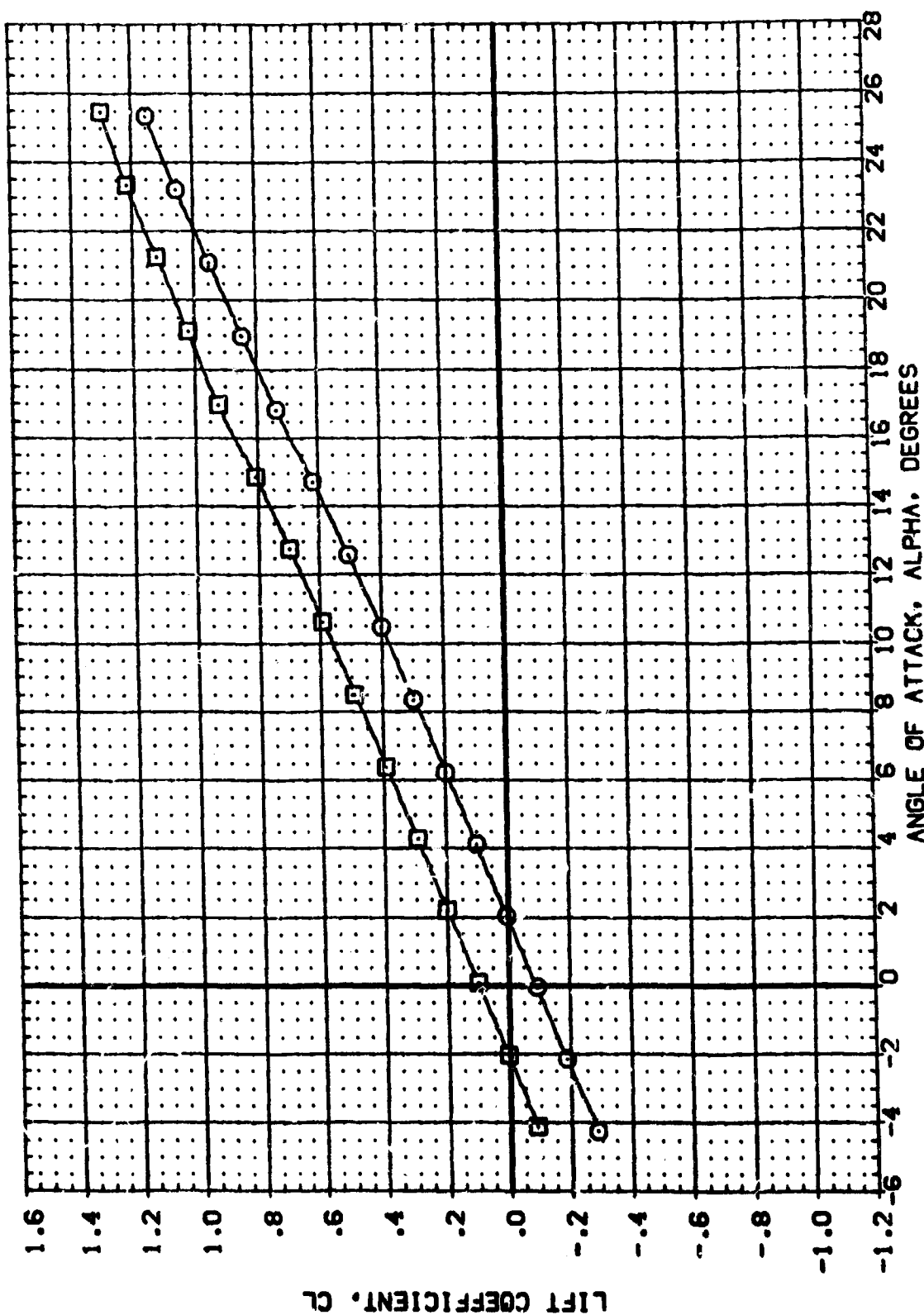


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XDP112) □ 0A21 817C7-04MF5 V107E23V7R6S15  
 (XDP133) □ 0A21 817C7-04MF5 V107E23V7R6S15

ELEVON AILRON BOFLAP SPDRBK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF 16.0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

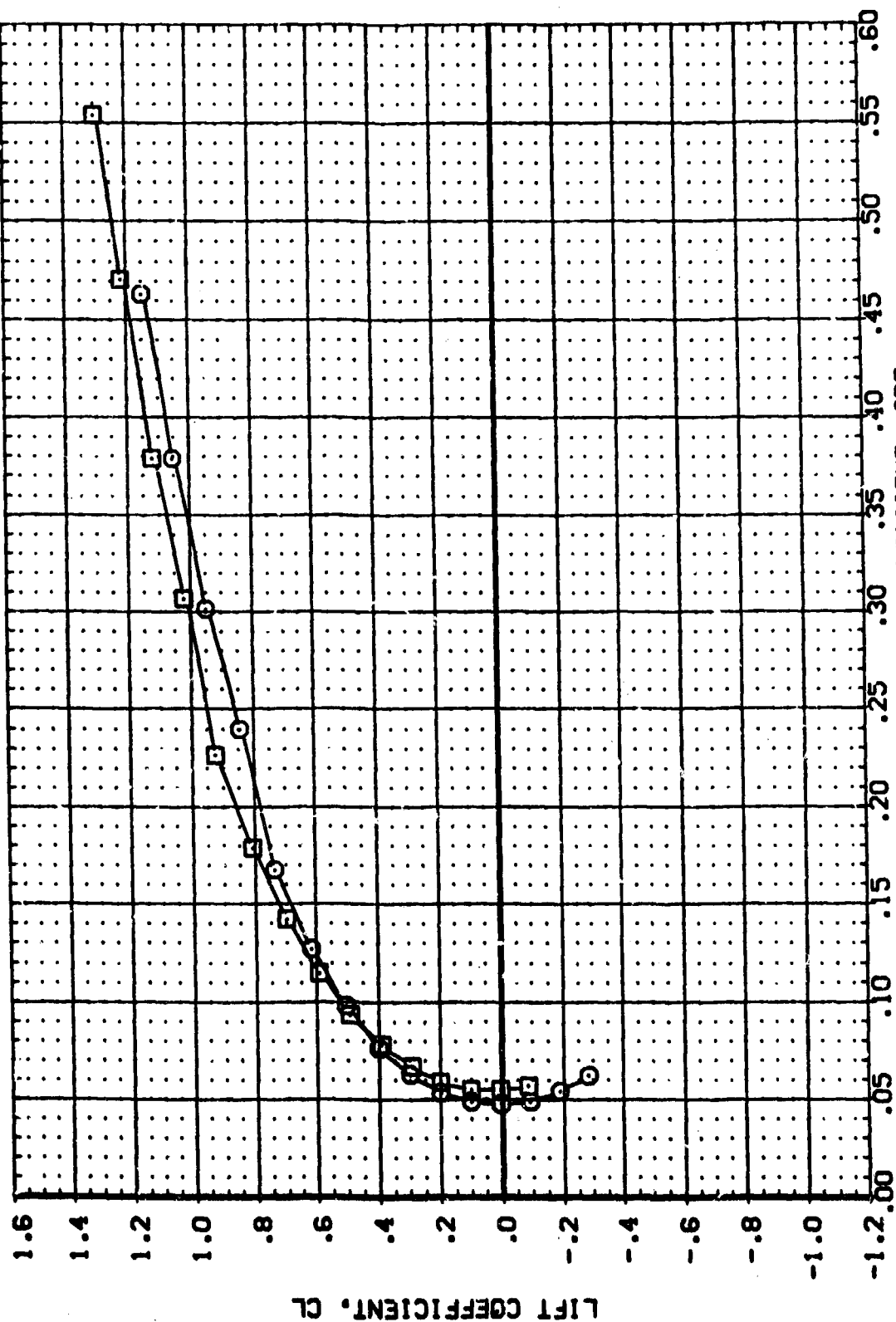


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XDP112) 0A21 817C7AQMFS V107E23V78B19  
 (XDP133) 0A21 817C7AQMFS V107E23V78B19

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION:  
 SREF 4.4119 SQ.FT.  
 LREF 19.2259 INCHES  
 BREF 37.5359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

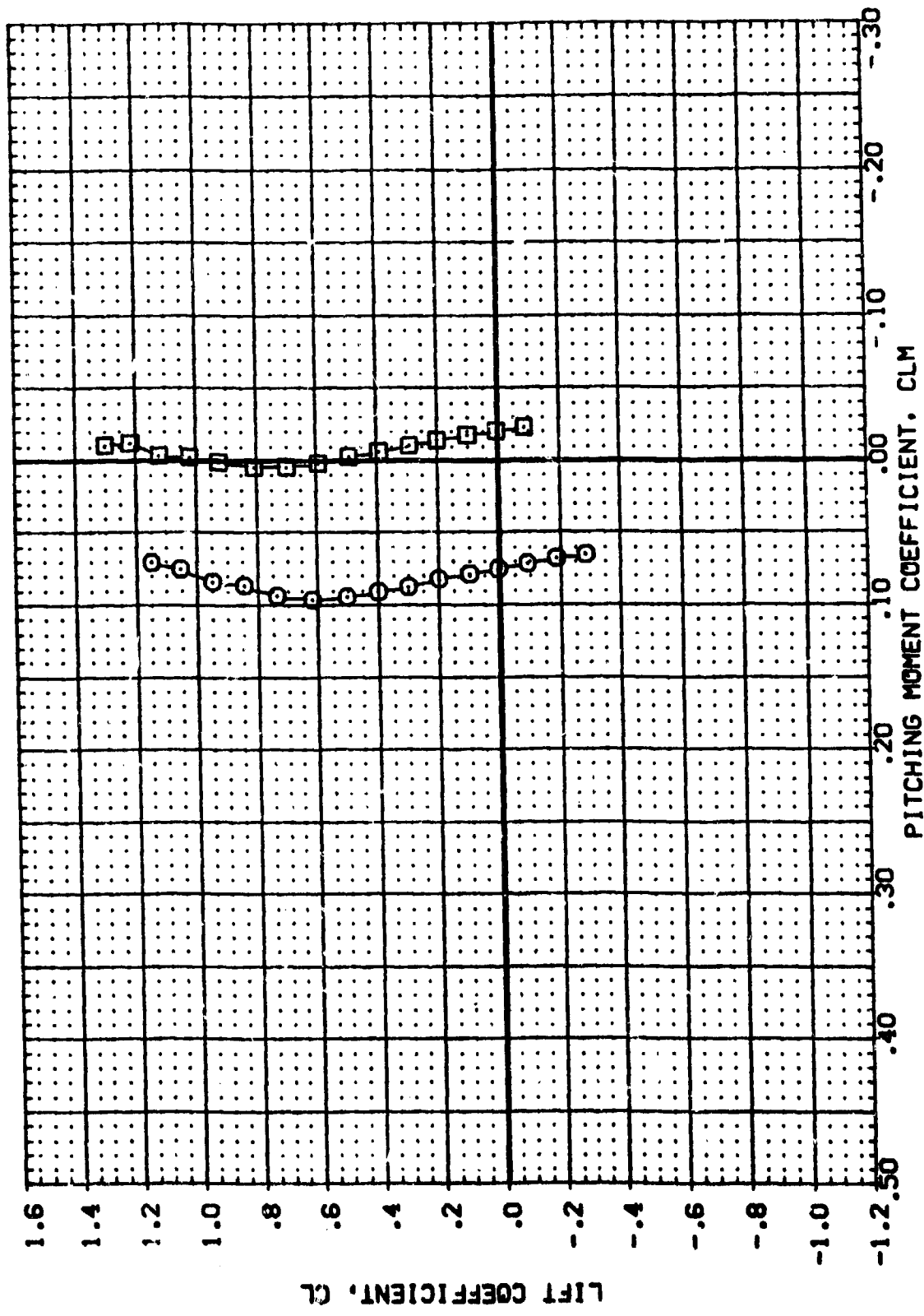


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

ELEVON	ALLRON	BULFAP	ST-5000
.000	.000	-18.000	55.000
10.000	.000	-18.000	55.000

REFERENCE INFORMATION	
SREF	4.4119 SQ.FT.
LREF	19.2299 INCHES
BREF	37.9359 INCHES
XMRP	43.5974 INCHES
YMRP	.0000 INCHES
ZMRP	16.2000 INCHES
SCALE	.0405 SCALE

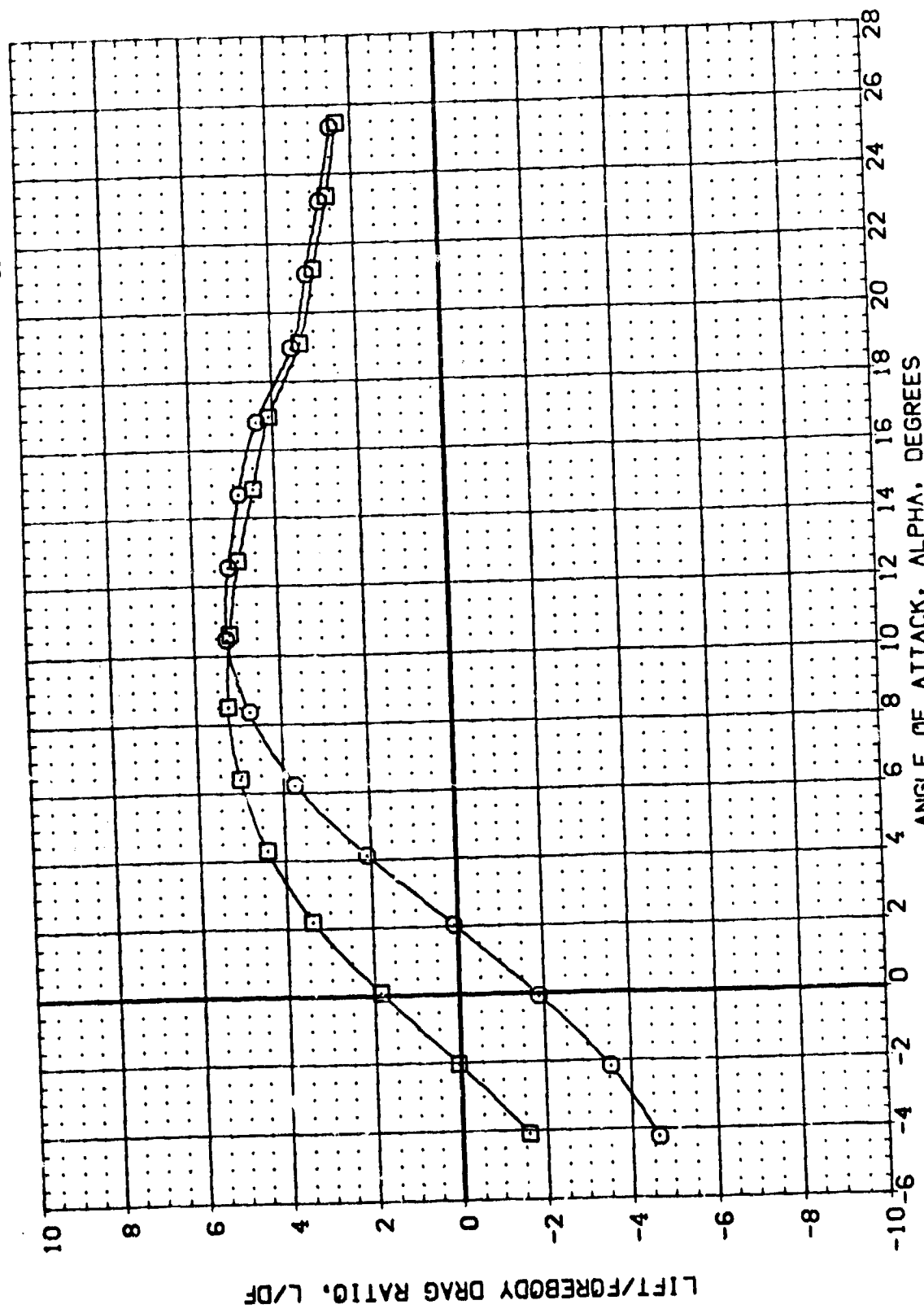


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

$$\{A\}_{MACH} = .26$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XOP112) 0A21 B17C7G4HFS V107E23V78S1S  
 (XOP133) 0A21 B17C7G4HFS V107E23V78S1S

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50 FT.  
 LREF 19.2299 INCHES  
 XREF 37.9359 INCHES  
 YREF 43.5974 INCHES  
 ZREF .0000 INCHES  
 SCALE 16.2000 INCHES  
 SCALE .0405

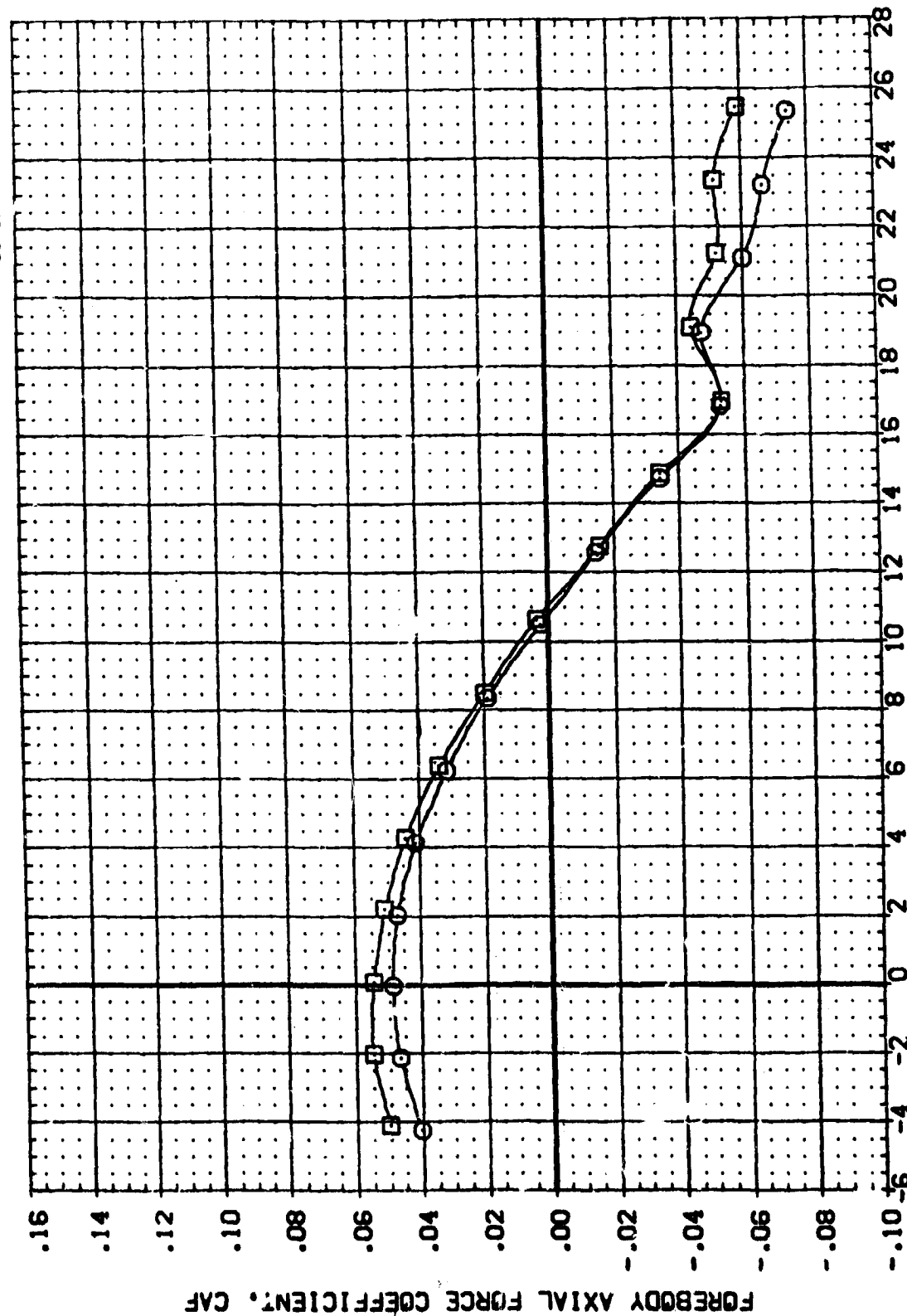


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XDP112) 0A21 B17C7H3H4FS V107E23V7R6X3  
 (XDP133) 0A21 B17C7H3H4FS V107E23V7R6X3

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

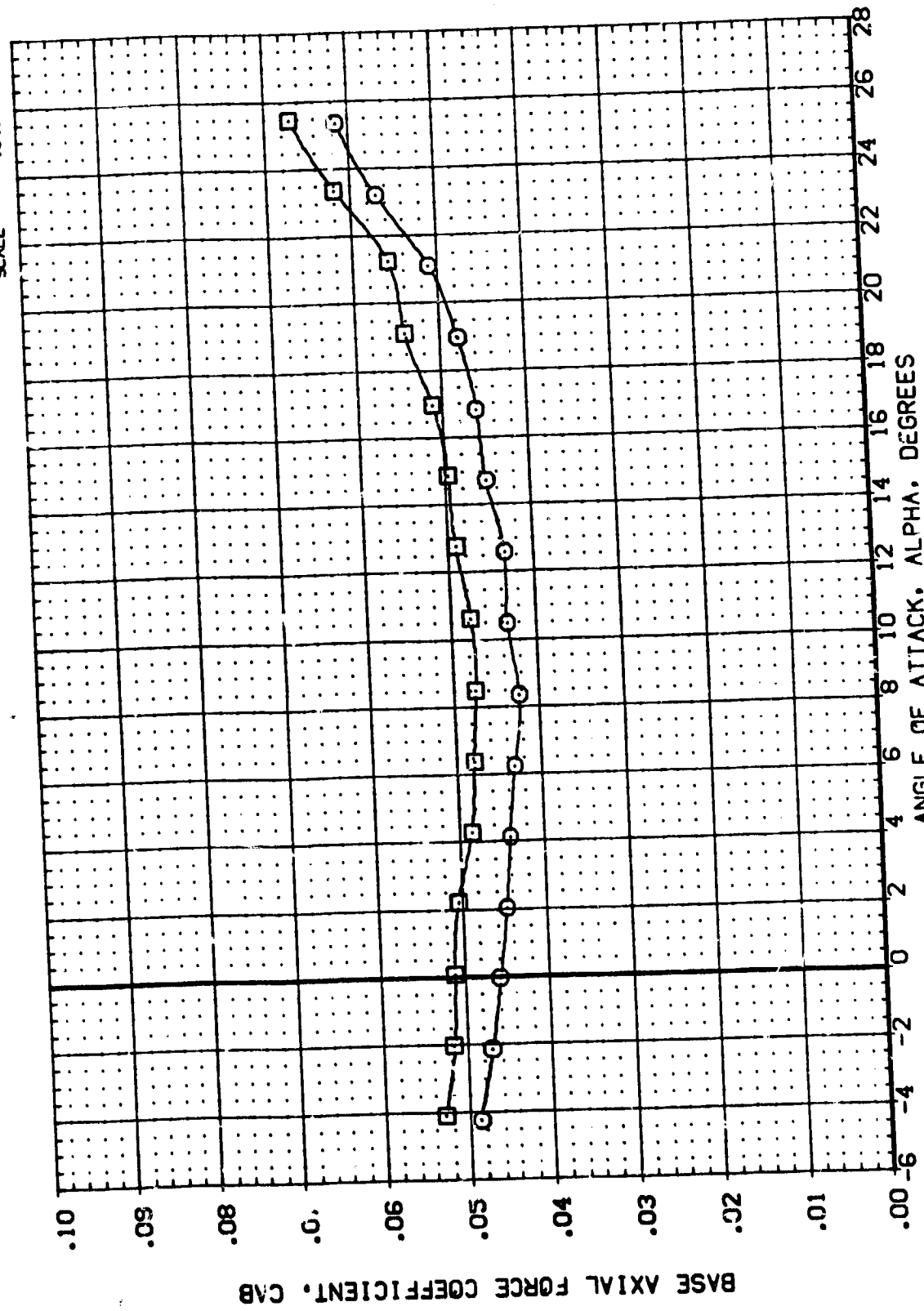


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL: 817C7-3HMF5  
 (XDP112) 817C7-3HMF5  
 (XDP133) 817C7-3HMF5

ELEVON AIRLON ROLAP SPOBWK  
 .000 .000 .000 .000  
 10.000 -18.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.477  
 LREF 19.2238 INCHES  
 BREF 37.8358 INCHES  
 XREF 43.5874 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

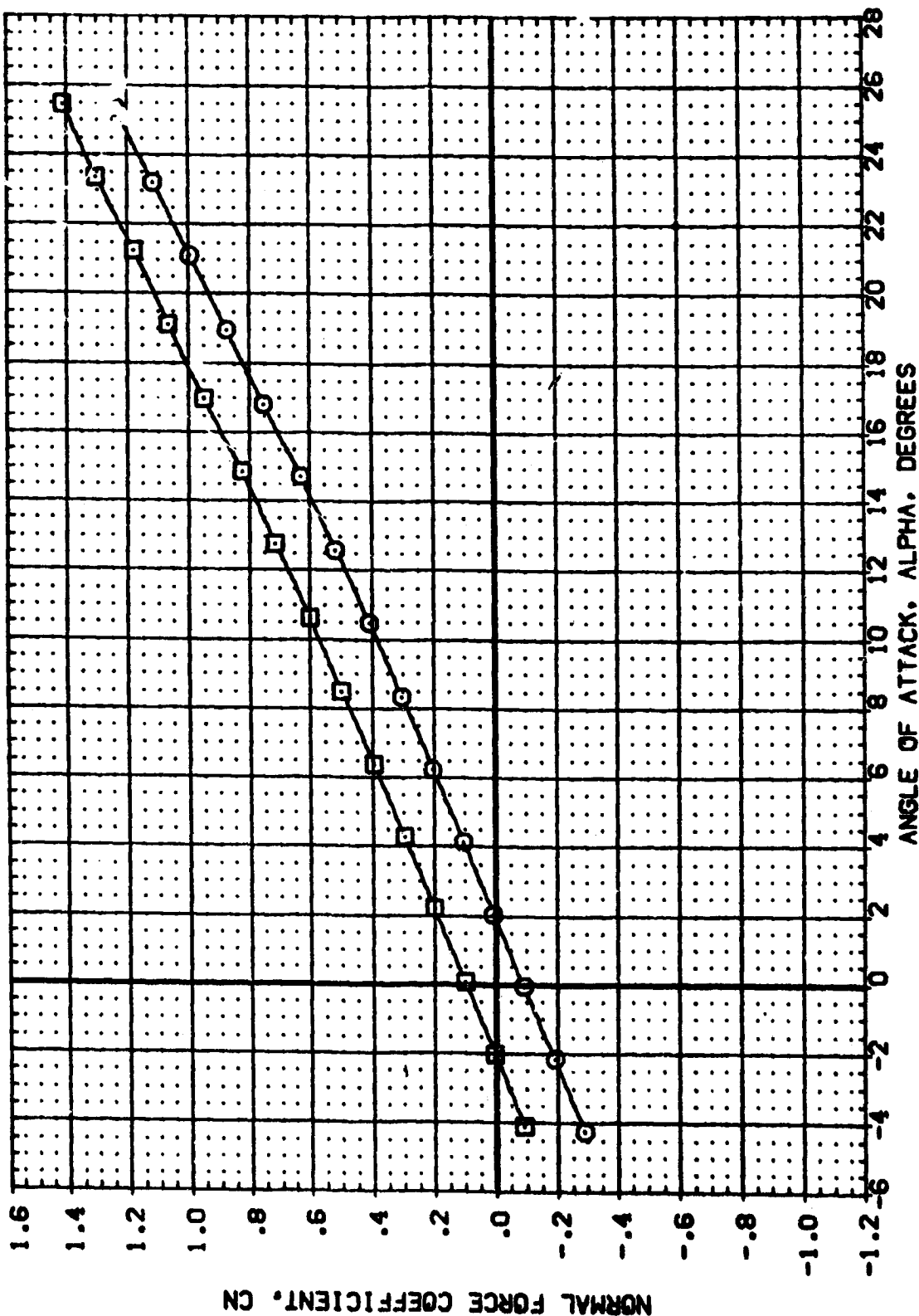
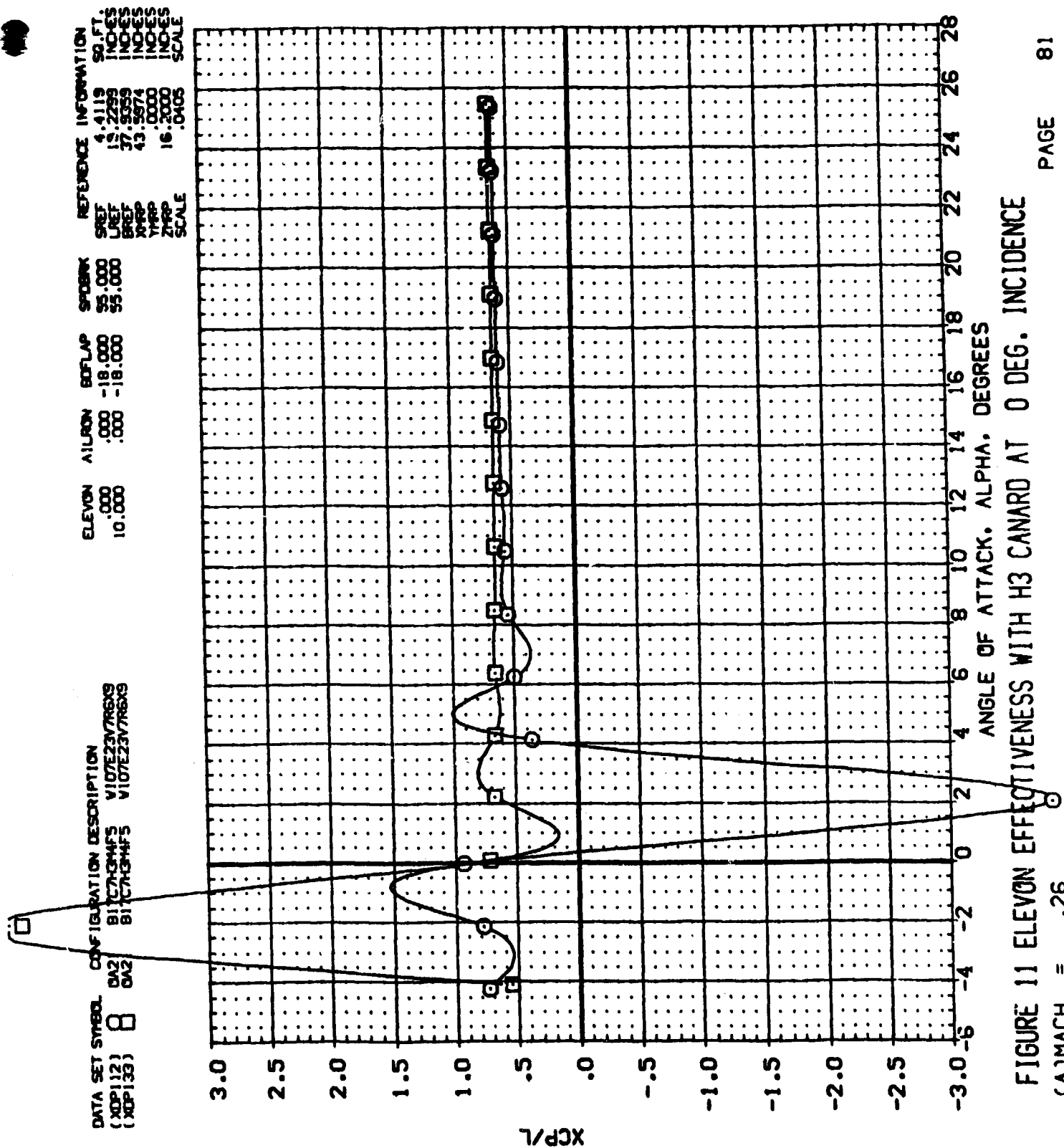


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

C30



**(A)MACH = .26**

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(XPI12) 0A21 B17C7GMFS V107E23V76AS  
(XPI13) 0A21 B17C7GMFS V107E23V76AS

ELEVON AILSON GOLFAP SPORAK  
.000 .000 .000  
10.000 -18.000 55.000

REFERENCE INFORMATION  
SREF 4.4119 50. FT.  
LREF 19.2288 INCHES  
BREF 37.8358 INCHES  
XREF 43.5574 INCHES  
YREF .0000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

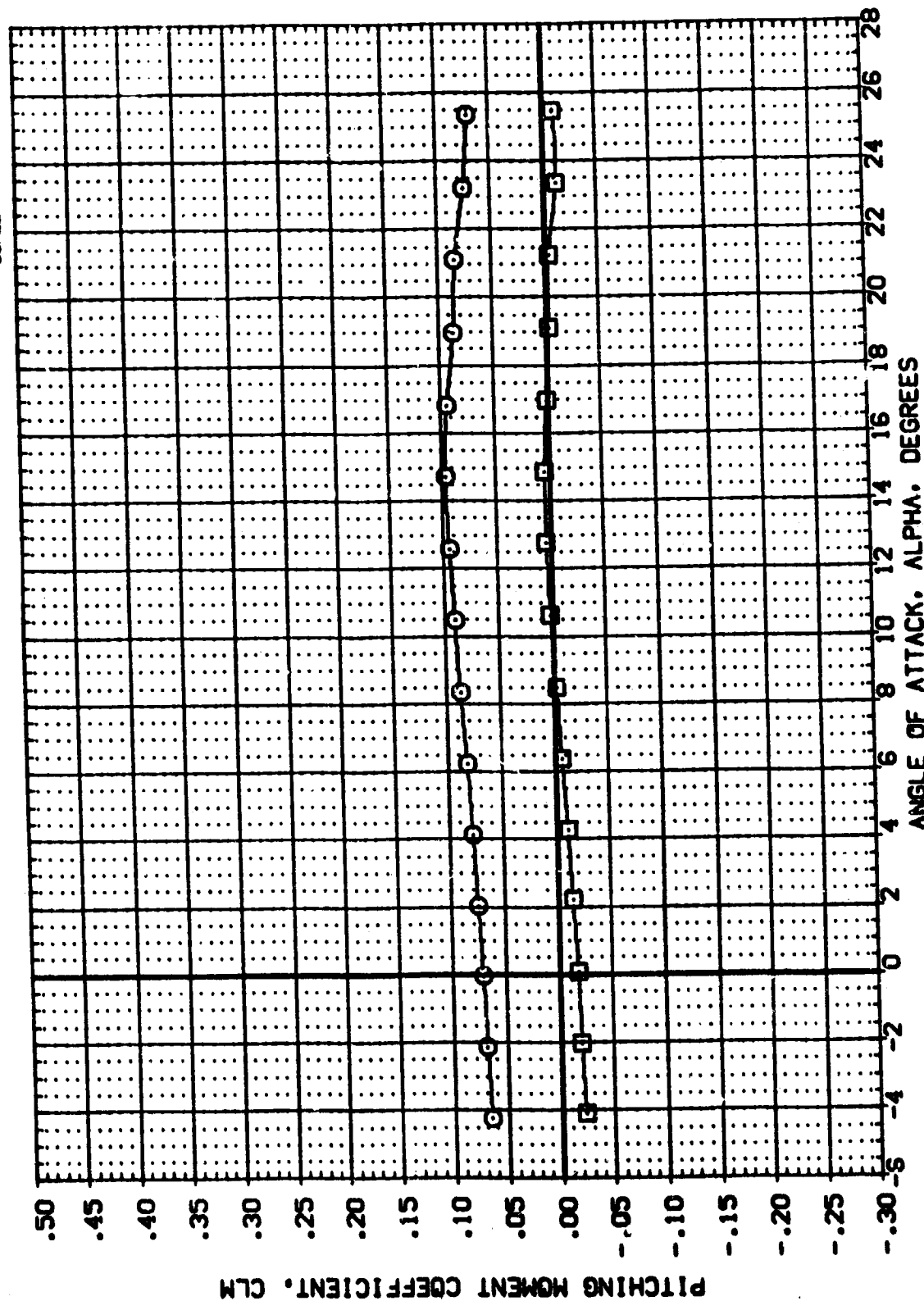


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (YDP133)    O    0A21    B17C7H3M4FS    Y107E23V7R6SX9

MAVELE    DELELE    BOFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2298    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

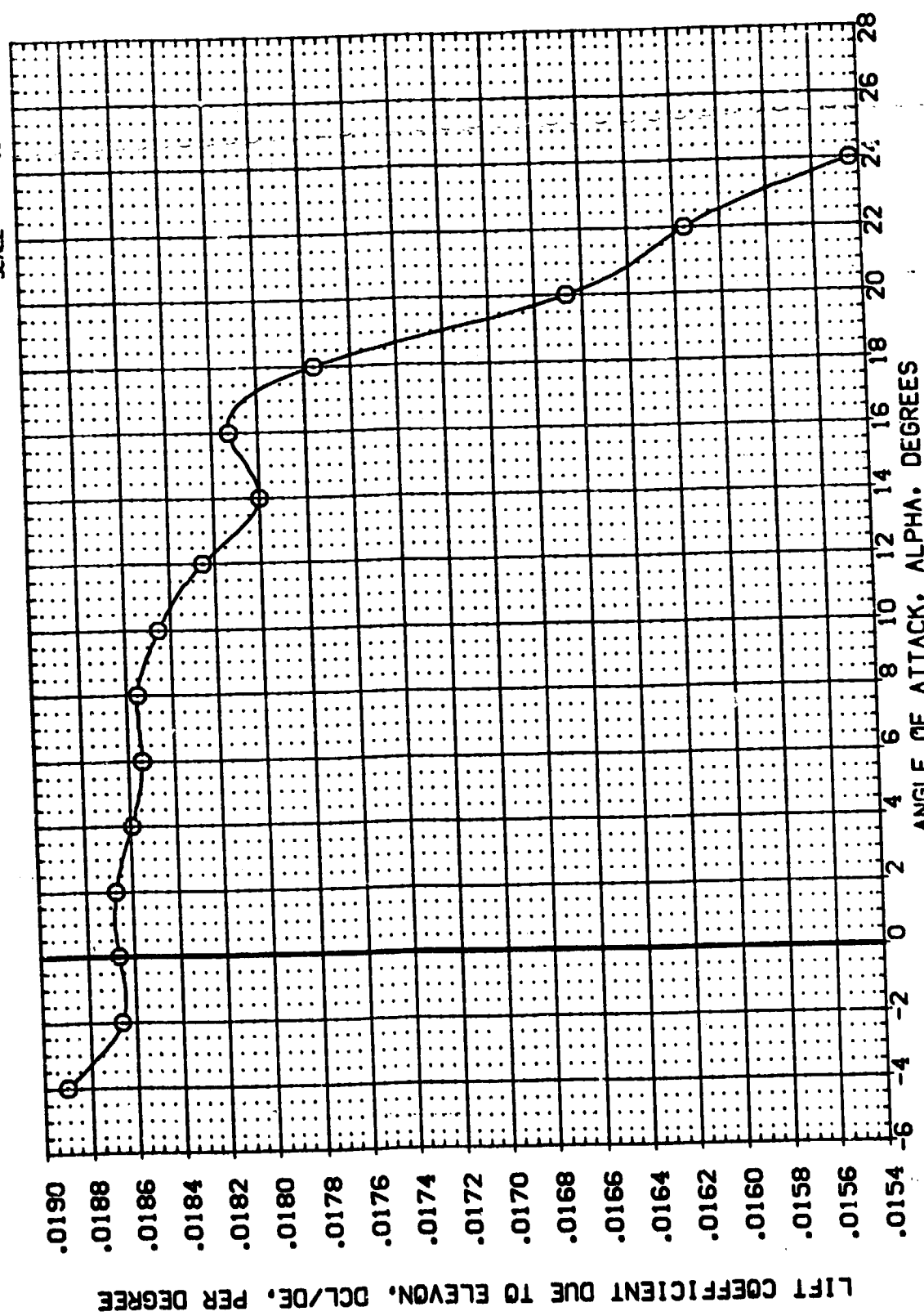


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(M)MACH = .26

DATA SET SYMBL. CONFIGURATION DESCRIPTION  
(Y0P133) O 0A21 B17C7A0MPS V107E23V7R8WS

MAXELE 10.000 DELELE 10.000 80FLAP 55.000  
SPOBWK 55.000  
REFERENCE INFORMATION  
SREF 4.4119 50.FT.  
LREF 19.2288 INCHES  
BREF 37.9359 INCHES  
XREF 43.9974 INCHES  
YREF 10.0000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

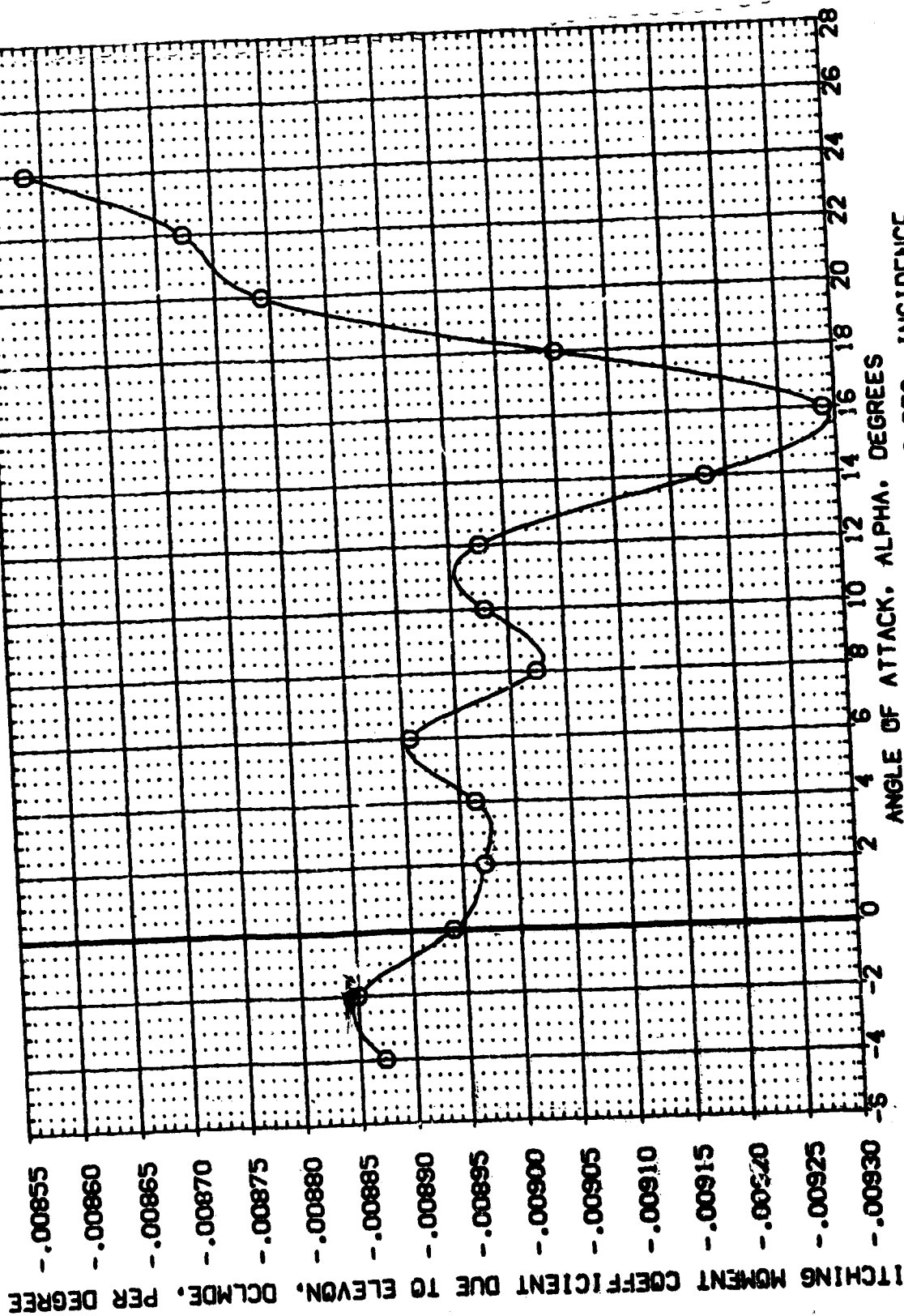


FIGURE 11 ELEVON EFFECTIVENESS WITH H3 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(XDP113)	0A21	817C7-GHAF3	V107E23V7R6D39	SREF	4.4119
(XDP134)	0A21	817C7-GHAF3	V107E23V7R6D39	LREF	19.2289
				BREF	37.9369
				XMRP	43.5974
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405

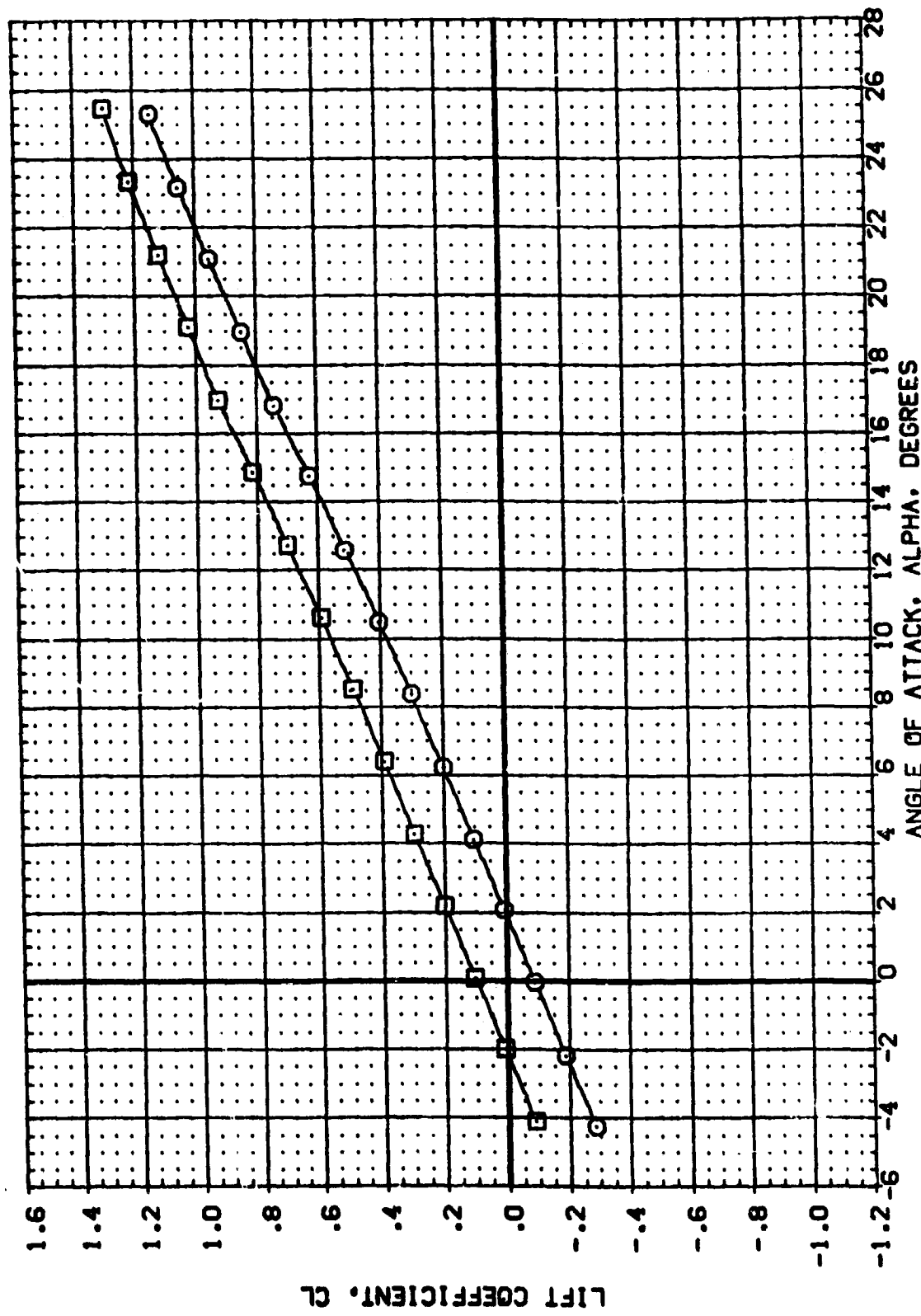


FIGURE 12 ELEVEN EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (X09113) □ 0A21 817C7AGWFS V107E23V7N6X9  
 (X09134) □ 0A21 817C7AGWFS V107E23V7N6X9

ELEVON AILWON BOFLAP SPOBRK  
 10.000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT. INCHES  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF 16.0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

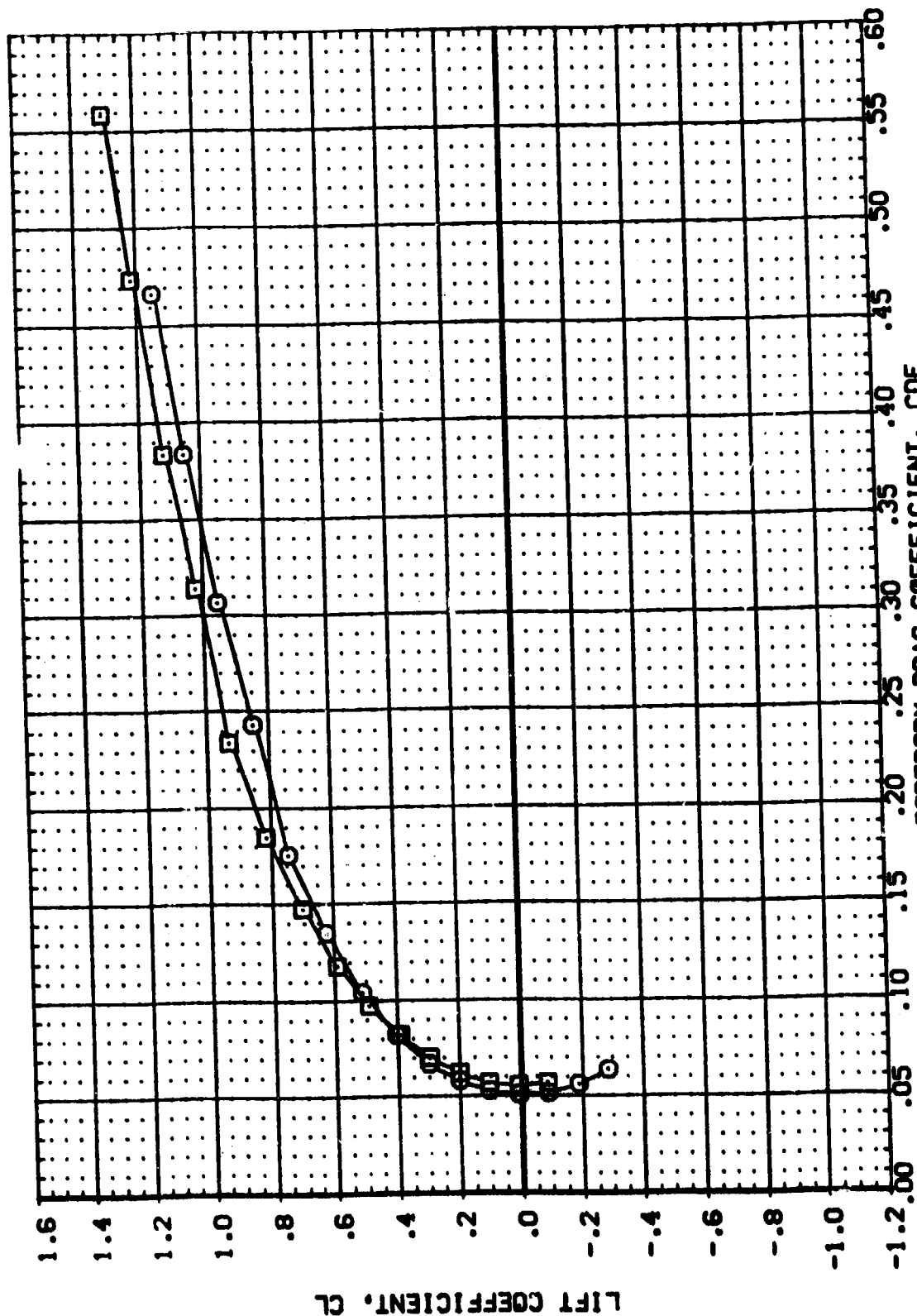


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XDP113) 0A21 B17C7A3M4F5 V107E23V7RSX9  
 (XDP134) 0A21 B17C7A3M4F5 V107E23V7RSX9

ELEVON AILRON BOFLAP SPOBRK REFERENCE INFORMATION  
 .000 .000 -18.000 55.000 SREF 4.4119 SQ.FT.  
 10.000 .000 -18.000 55.000 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XTRP 43.5974 INCHES  
 YTRP 16.0000 INCHES  
 ZTRP 16.0000 INCHES  
 SCALE .0405

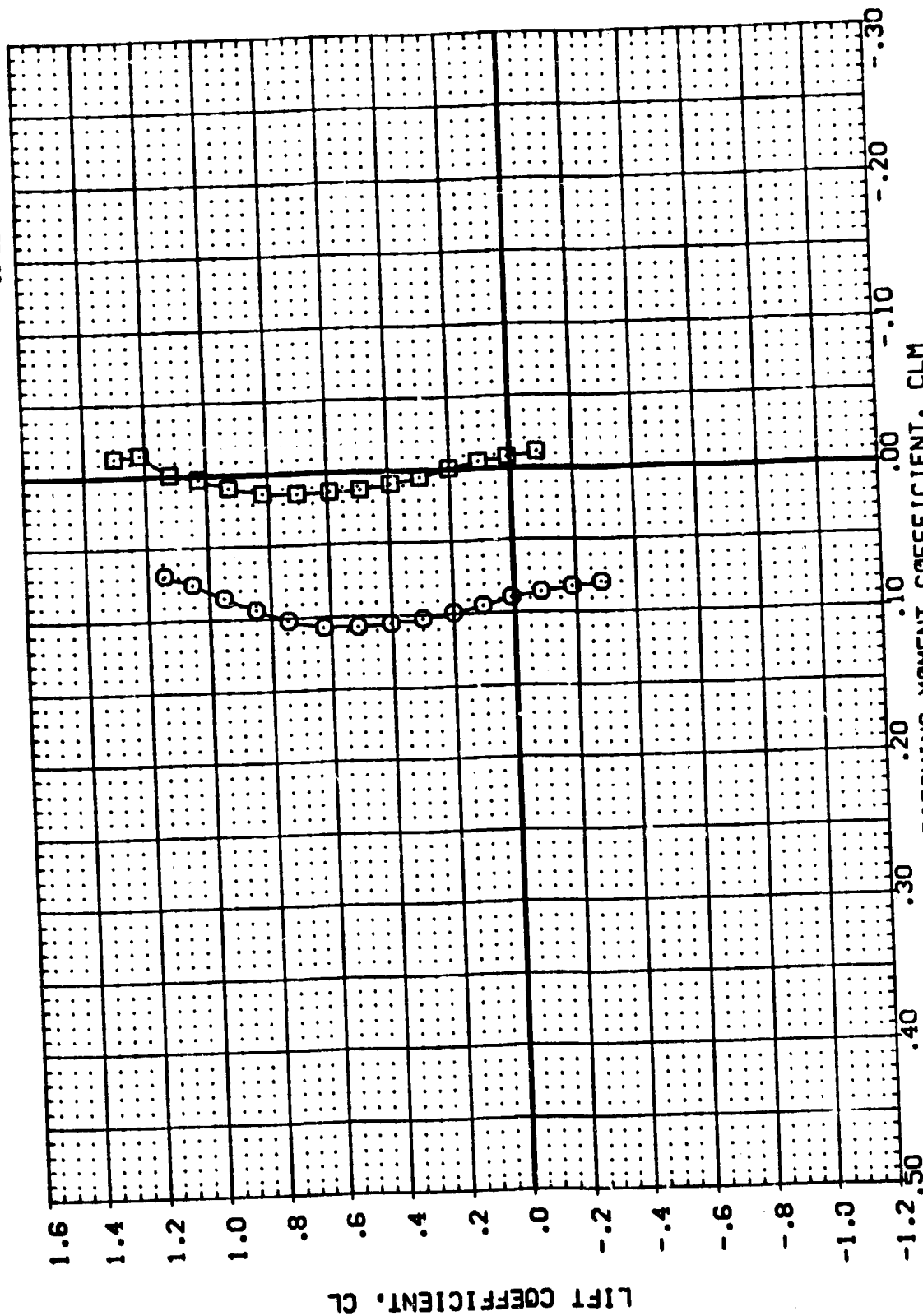


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILRON		BOFLAP		SPOBRK		REFERENCE INFORMATION	
(XOP112)	8	0A21	817C7A-0HMF3	10.000	.000	.000	.000	-18.000	55.000	SREF	4.4119	90.000	INCHES
(XOP134)		0A21	817C7A-0HMF3	10.000	.000	.000	.000	-18.000	55.000	LREF	19.2258	90.000	INCHES
										BREF	37.9358	90.000	INCHES
										WREF	43.5874	90.000	INCHES
										WREF	16.2000	90.000	INCHES
										ZREF	.0405	90.000	INCHES
										SCALE			SCALE

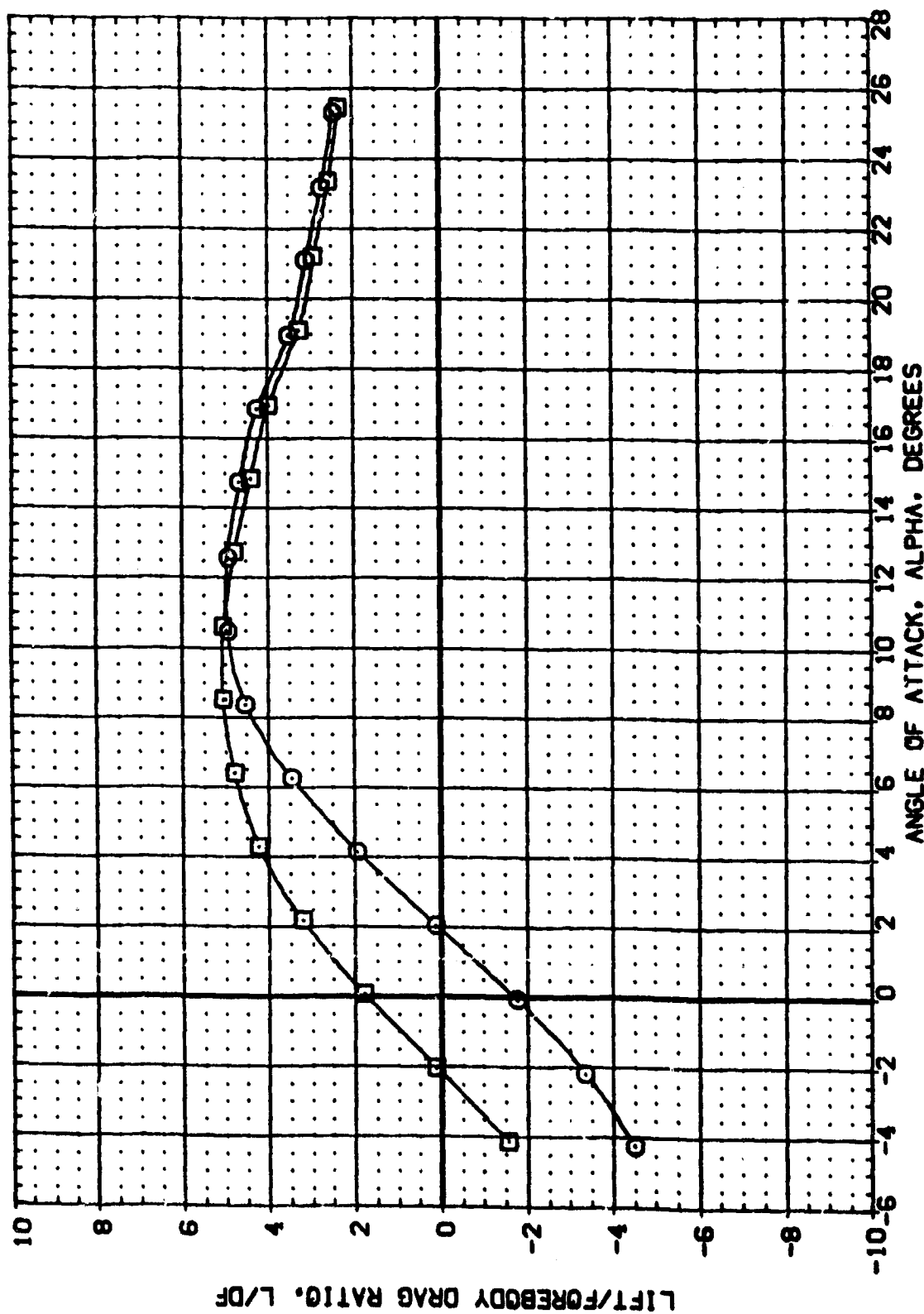


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XOP113) 0A21 B17C7G4HFS V107E23V7R6XS  
 (XOP134) 0A21 B17C7G4HFS V107E23V7R6XS

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 .000 55.000  
 10.000 .000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BRFP 37.9559 INCHES  
 YMRP 43.5574 INCHES  
 ZMRP .0000 INCHES  
 16.2000 INCHES  
 SCALE .0405

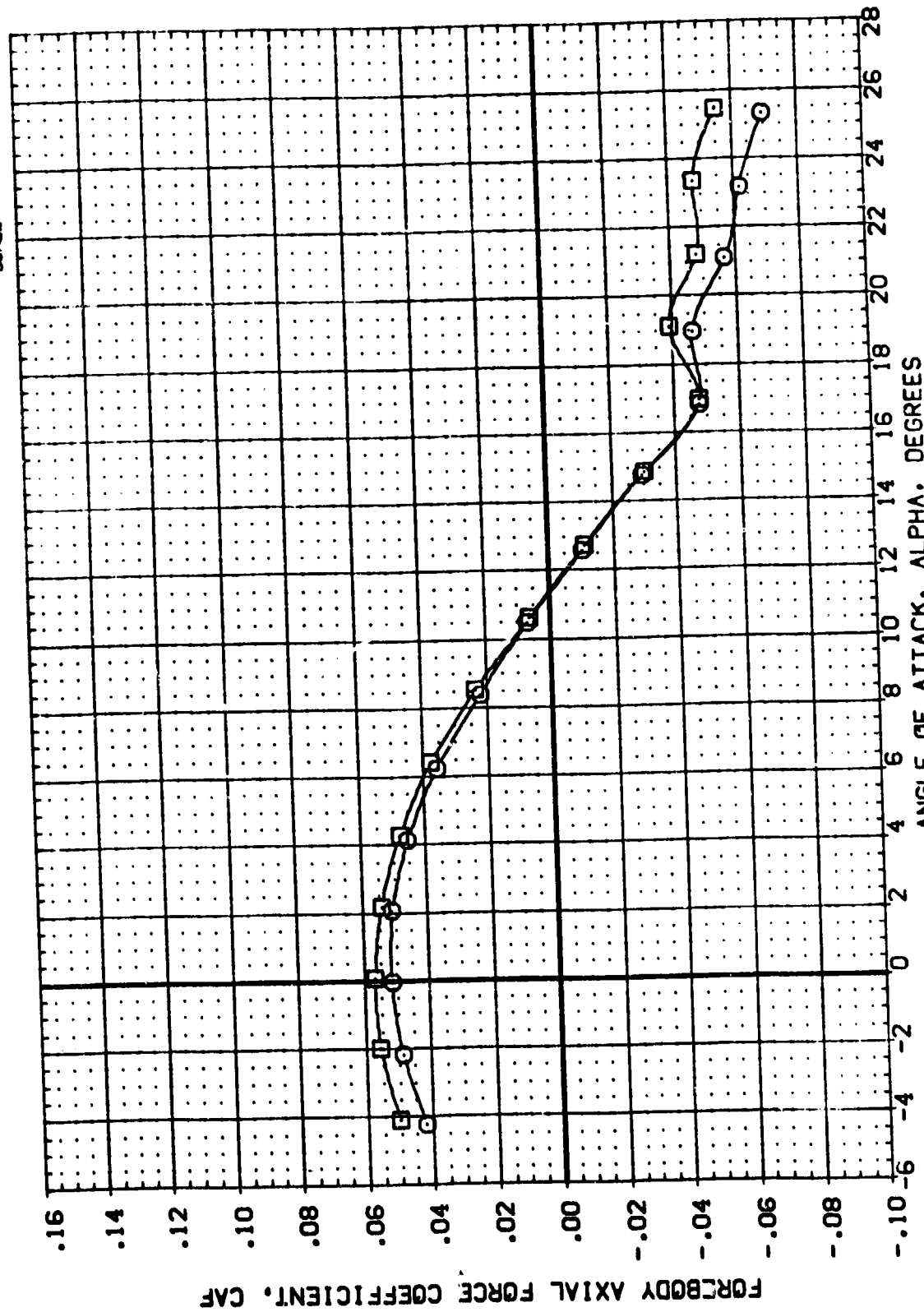


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (XDP113) □ OA21 B17C7H4HF5 V107E23V7R6X9  
 (XDP134) □ OA21 B17C7H4HF5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF 16.0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

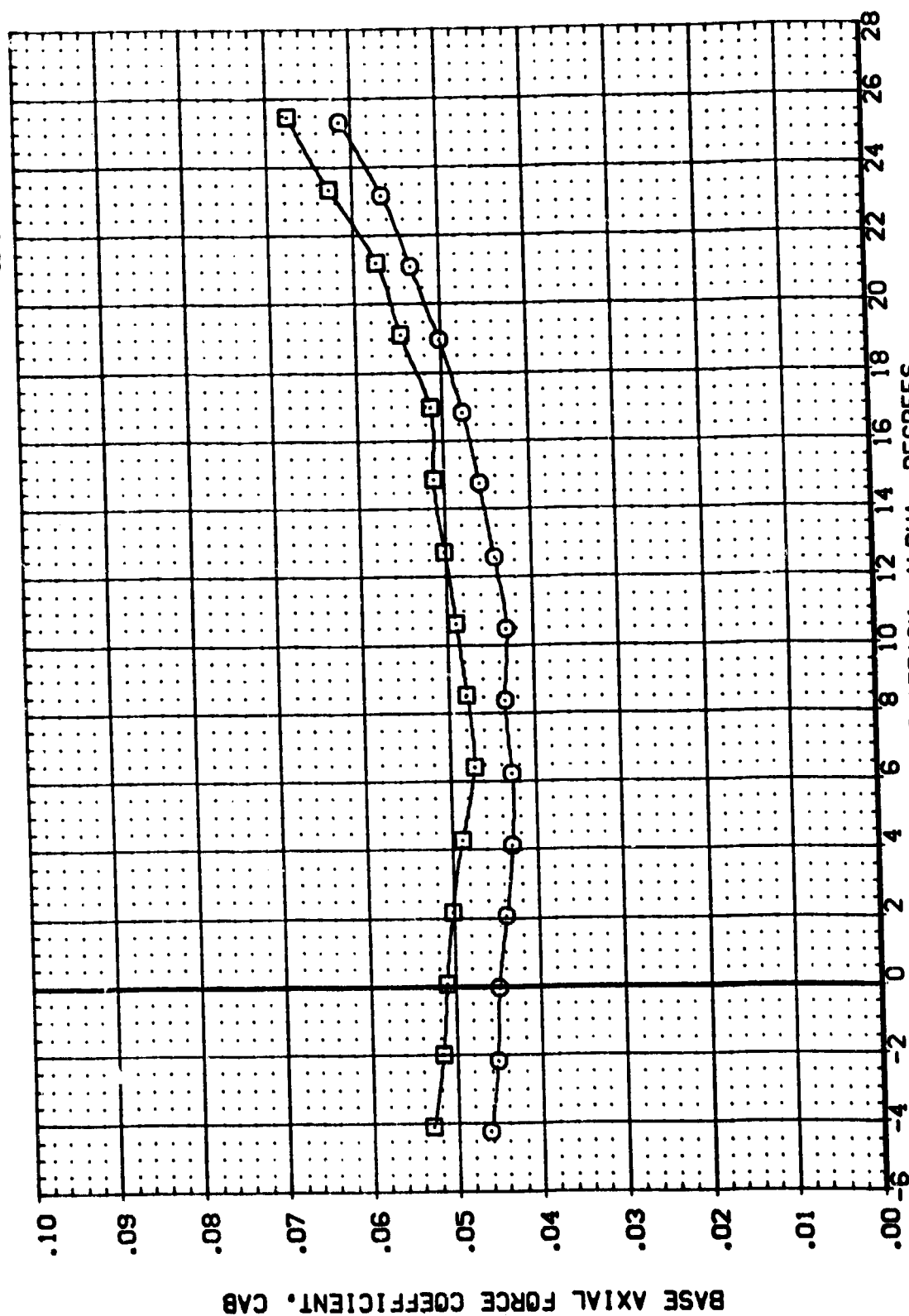


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

ELEVON		AILRON		BOFLAP		SPOBRK		REFERENCE INFORMATION	
.000	.000	.00	.00	-18.000	55.000	SREF	4.4119	SO.FT.	
10.000	.000	.000	.000	-18.000	55.000	LREF	9.2299	INCHES	
						BREF	27.9359	INCHES	
						YPRP	43.5974	INCHES	
						ZPRP	.0000	INCHES	
						SCALE	16.2000	INCHES	
							.0405	SCALE	

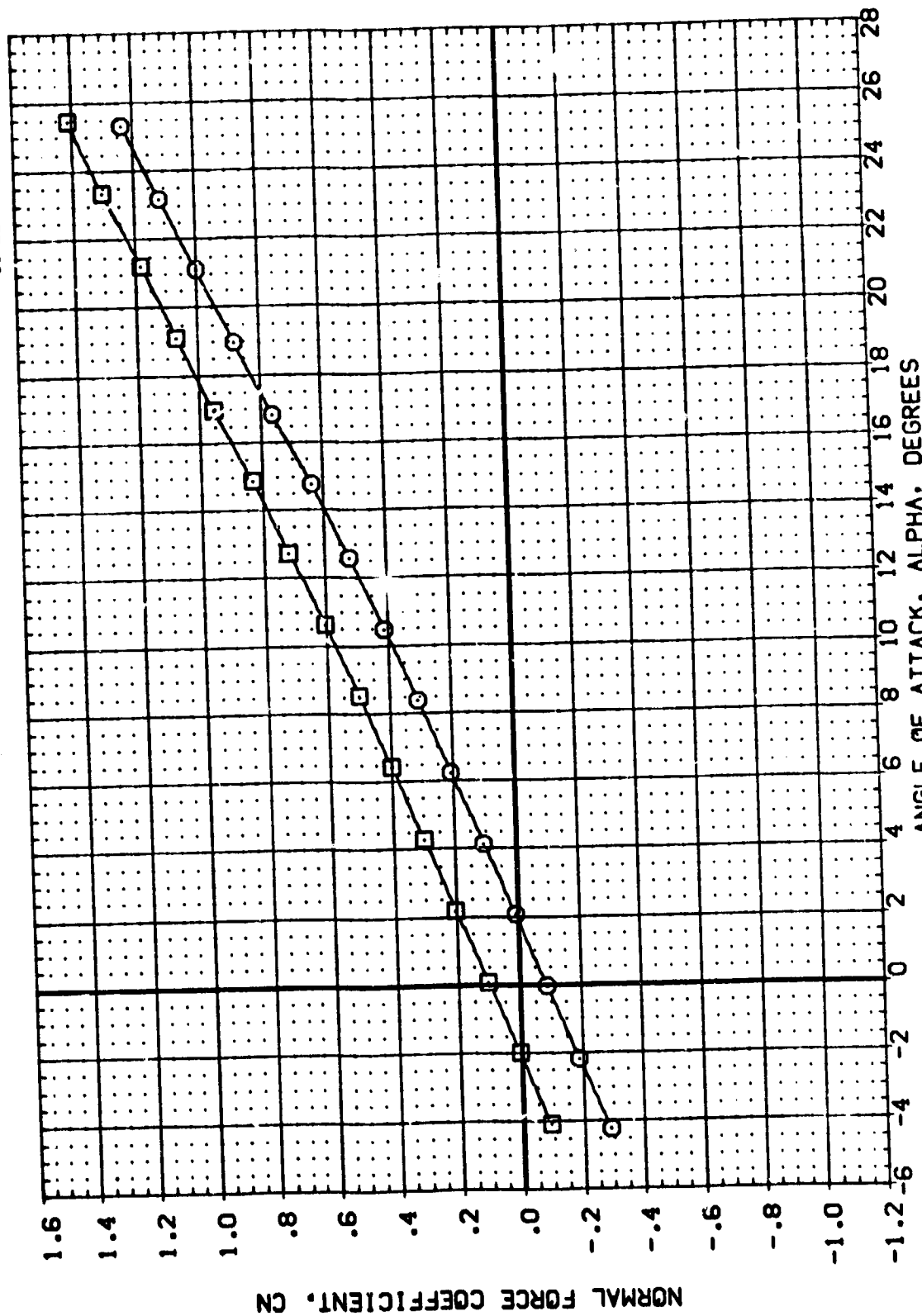


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

$$[A]_{MACH} = .26$$

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILERON		BOFLAP		SPORBK		REFERENCE INFORMATION	
(XOP112)	□	0A21	817C7A0MFS	V10TE2	WTRBX9	.000	.000	.000	-18.000	55.000	SREF	4.1119	50.17
(XOP134)	□	0A21	817C7A0MFS	V10TE2	WTRBX9	10.000	.000	.000	-18.000	55.000	LREF	19.2259	INCHES
											BREF	37.9359	INCHES
											XTRP	43.5974	INCHES
											YTRP	.0000	INCHES
											ZTRP	16.2000	INCHES
											SCALE	.0405	SCALE

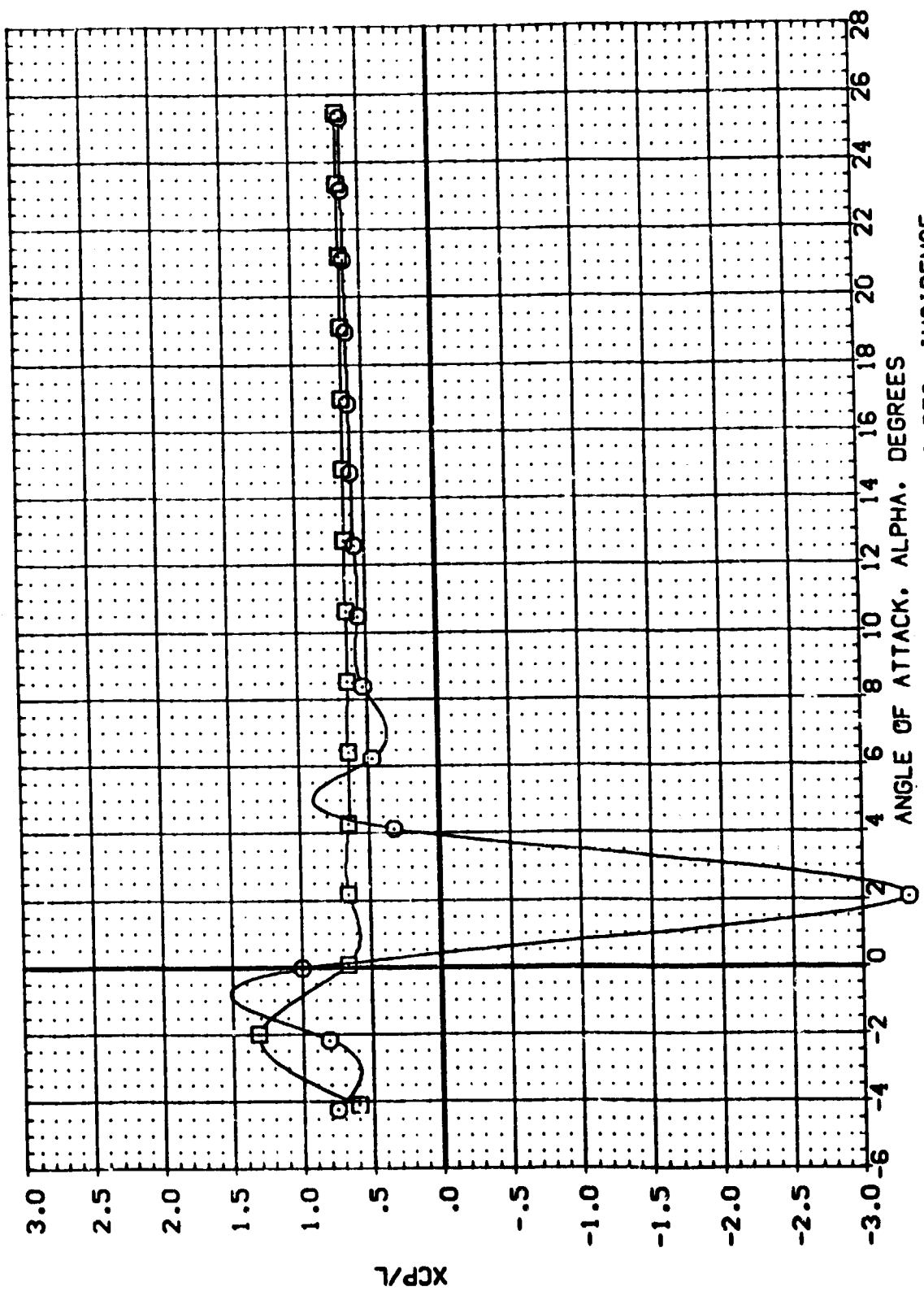


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 817C7-046'S  
 CONFIGURATION DESCRIPTION: VIOLEZZA/7833  
 817C7-046'S VIOLEZZA/7833

ELEVON: 10.000  
 ALIGN: .000  
 REF LIP: .000  
 PUSH: 55.000

REFERENCE INFORMATION:  
 4.4118 50 FT. INCHES  
 19.2758 INCHES  
 37.5154 INCHES  
 43.5974 INCHES  
 15.2000 INCHES  
 15.2000 INCHES  
 SCALE: .0405

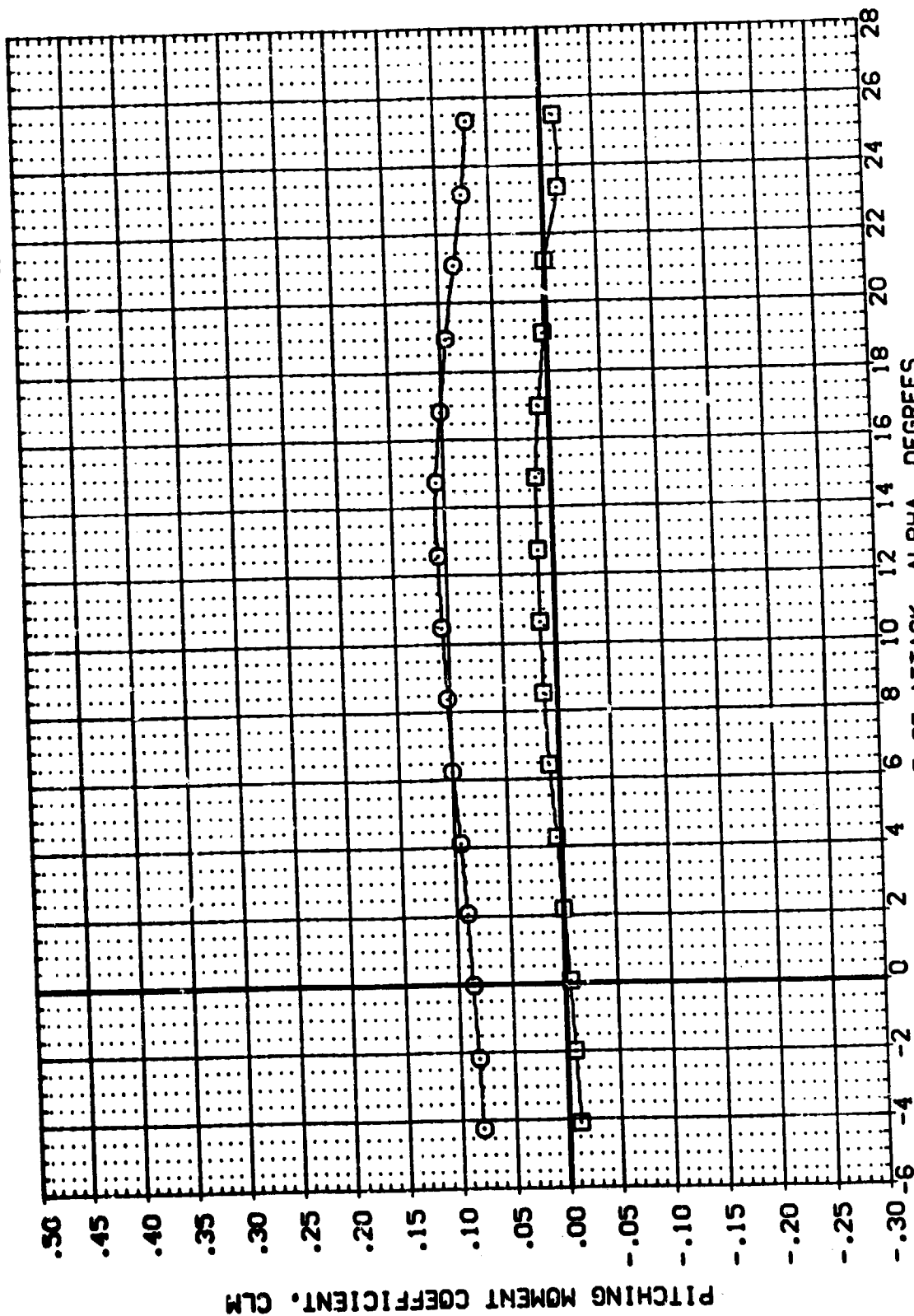


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(M)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(Y0P134) O 8421 817C7H4MFS V107E23V7R6M5

WAVELENGTH 10.000  
DELETA 10.000  
REFLAP -18.000  
SP00BK 55.000

REFERENCE INFORMATION  
SREF 4.4119 50. FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XREF 43.5974 INCHES  
YREF 16.2000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

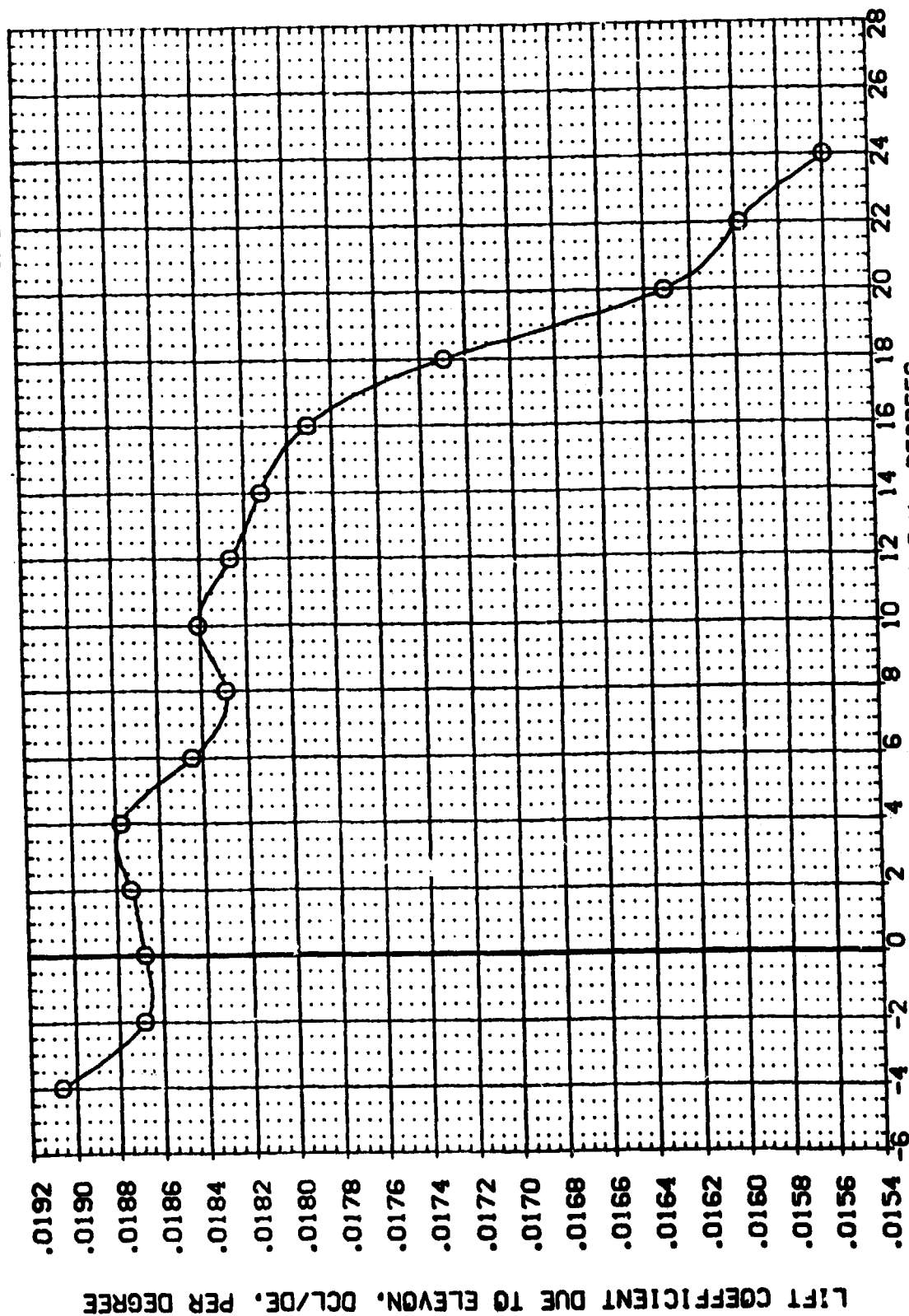


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL (Y0P134) 021 B17C7AGHAF5 V107E23V7R6X9

MAXELE 10.000  
DELELE 10.000  
BOFLAP -18.000  
SPDBRK 55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XPRP 43.5974 INCHES  
YPRP 16.0000 INCHES  
ZPRP 16.2000 INCHES  
SCALE .0405

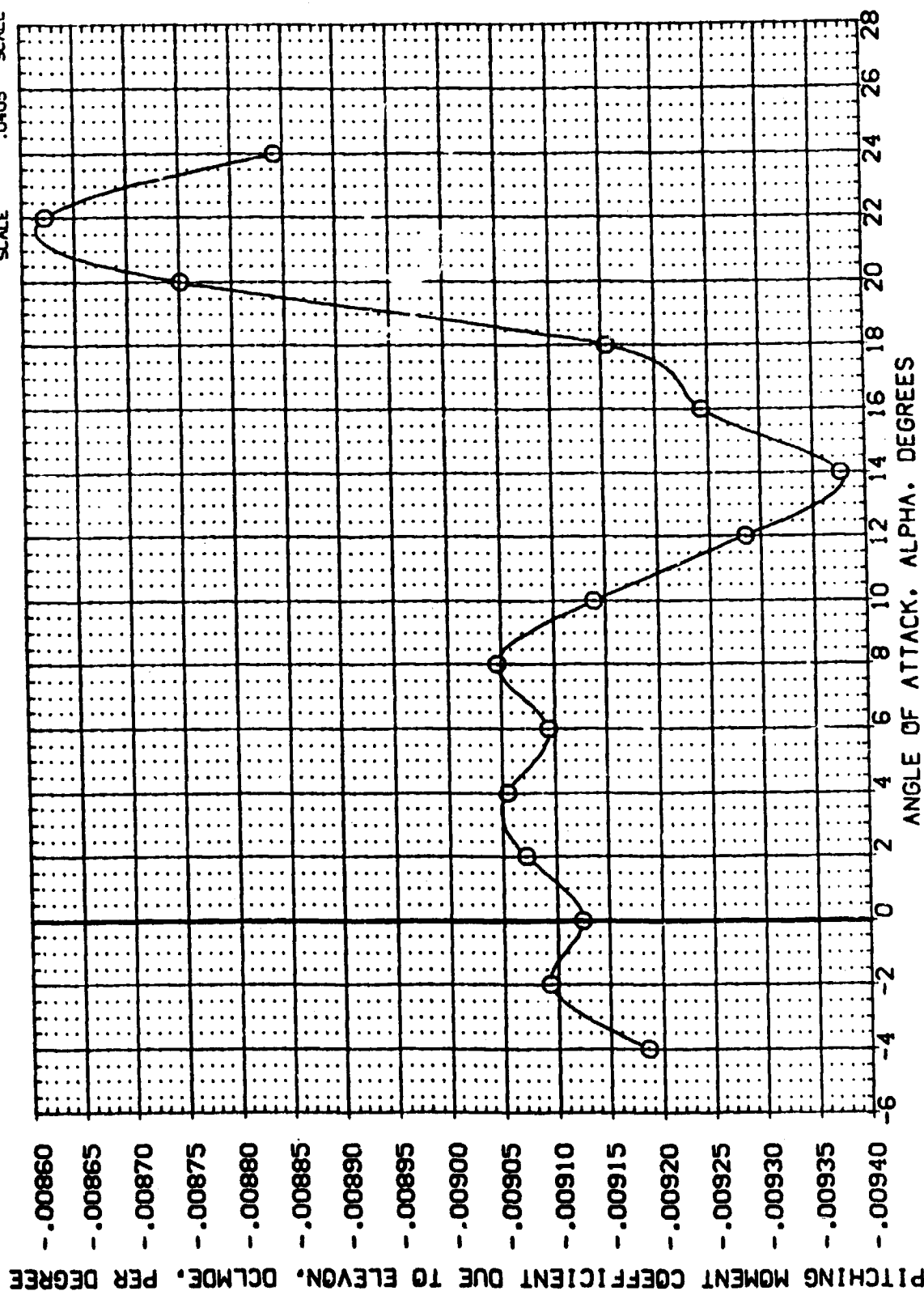


FIGURE 12 ELEVON EFFECTIVENESS WITH H3 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(XDP114)	Q21 817C7GMF5 V107E23V7R6X5	.000	.000	-18.000	55.000	SREF 4.4119 50.17
(XDP135)	Q31 817C7GMF5 V107E23V7R6X5	10.000	.000	-18.000	55.000	LREF 19.2298 INCHES
						BREF 37.9559 INCHES
						YMRP 43.5574 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

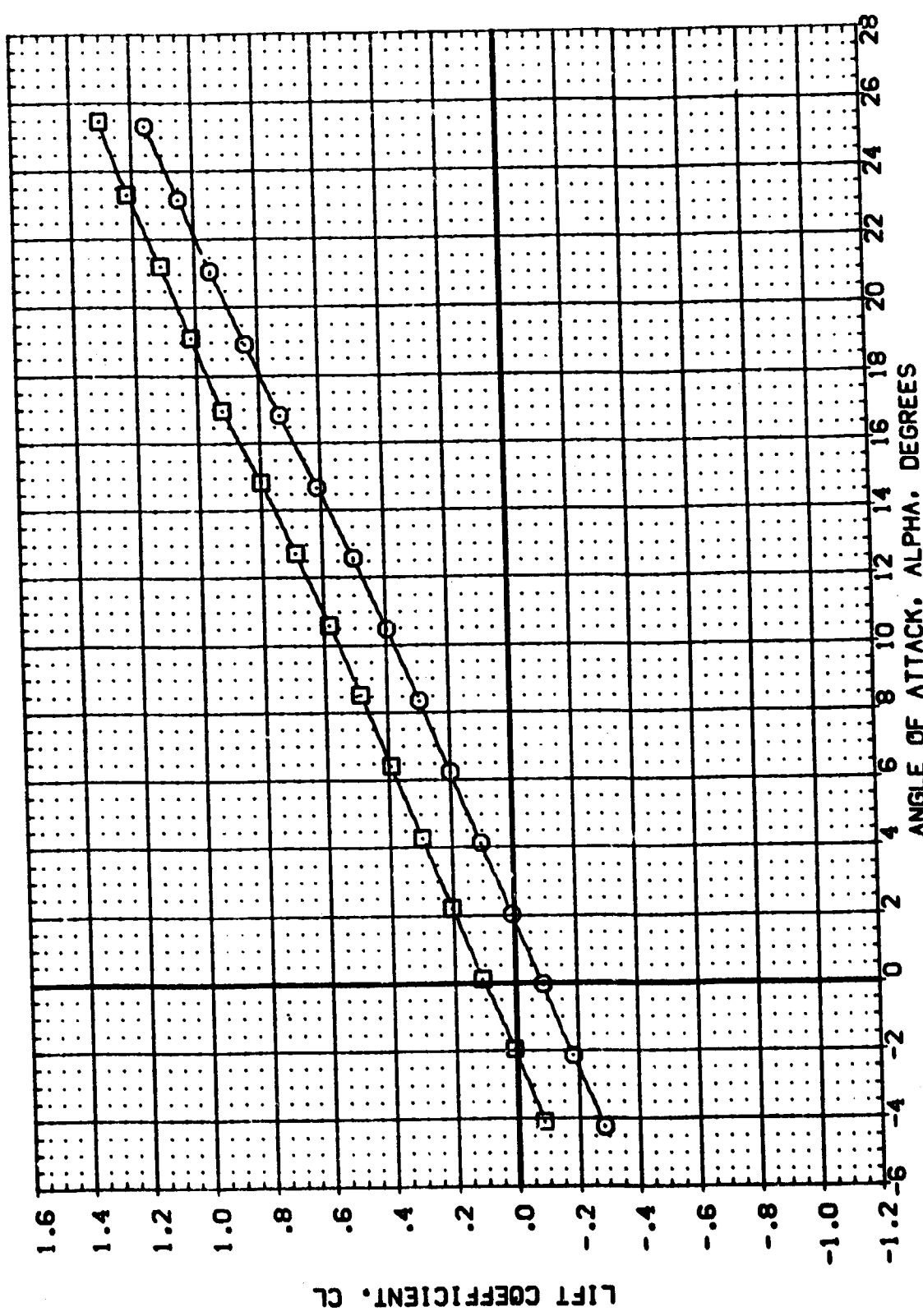


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL: CONFIGURATION DESCRIPTION  
(XOP114) 0A21 B17C7HGMFS VI07E23V7R6X9  
(XOP115) 0A21 B17C7HGMFS VI07E23V7R6X9

ELEVON ALLRON BOFLAP SPOLRK  
.000 .000 -18.000 55.000  
10.000 .000 -18.000 55.000  
REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

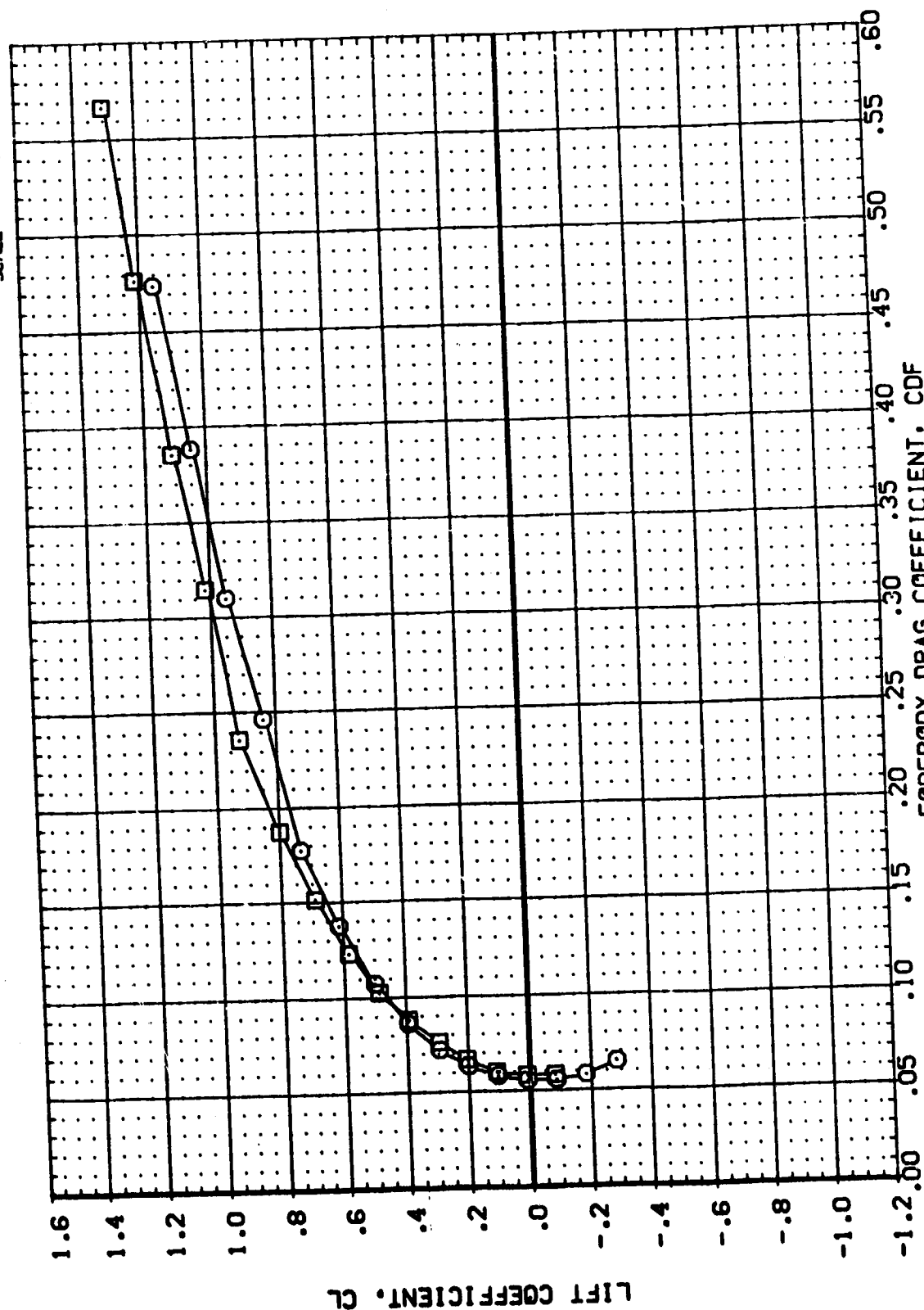


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(XOP114)	Q	QAZ1	B17C7HMF5	SNREF	4.4119
(XOP135)	Q	QAZ1	B17C7HMF5	LRREF	19.2259
				BRREF	37.9359
				XPRP	43.5574
				YPRP	.0000
				ZPRP	16.2000
				SCALE	.0405
					SCALE

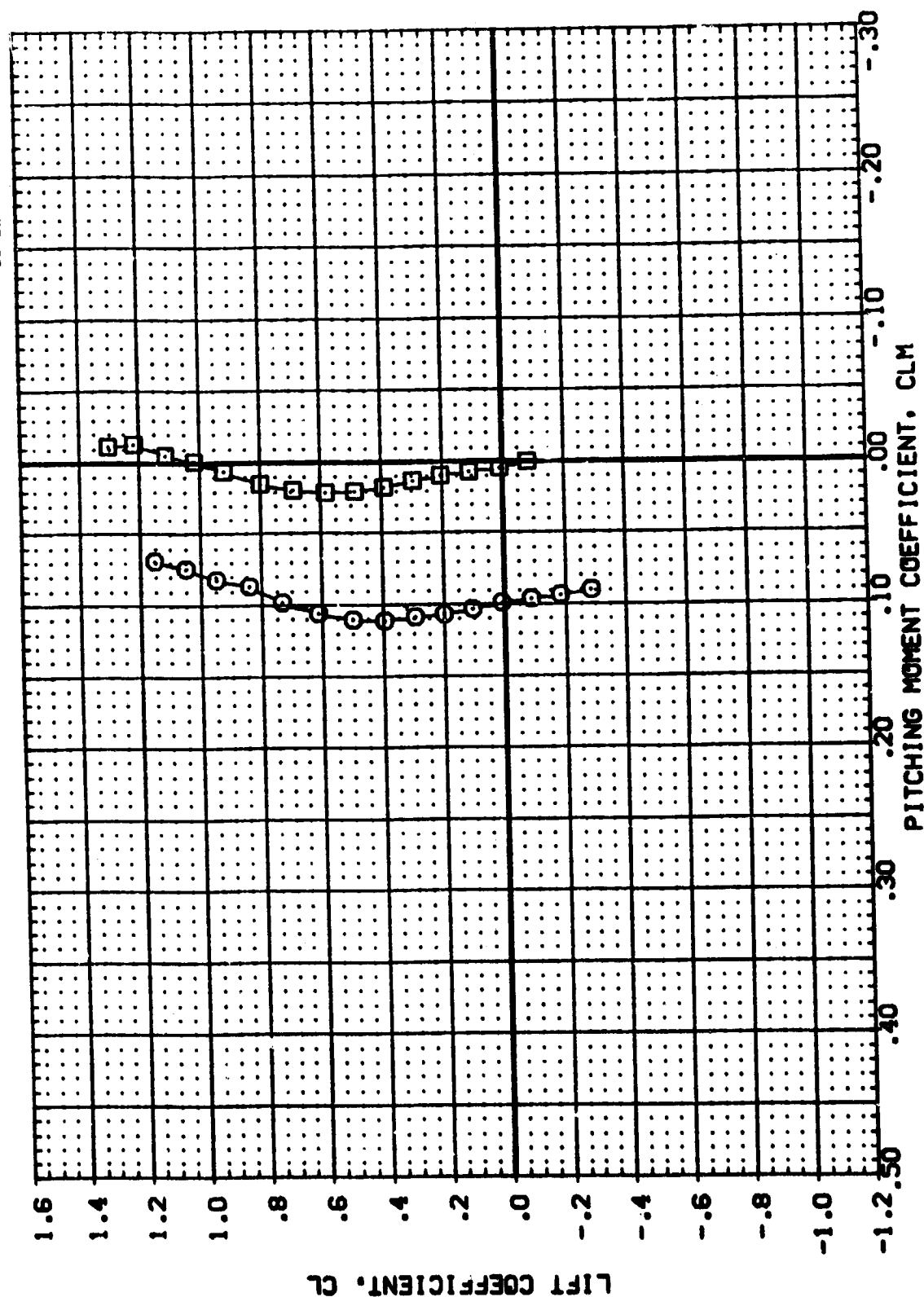


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 817CAGMFS  
 (XOP14) 817CAGMFS  
 (XOP15) 817CAGMFS

CONFIGURATION DESCRIPTION: VI07E237R6S3  
 VI07E237R6S3

ELEVON: 10.000  
 AIRLON: .000  
 BOFLAP: -18.000  
 SPORBN: 55.000  
 REFERENCE INFORMATION:  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XPRP: 43.5874 INCHES  
 YPRP: .0000 INCHES  
 ZPRP: 16.2000 INCHES  
 SCALE: .0405

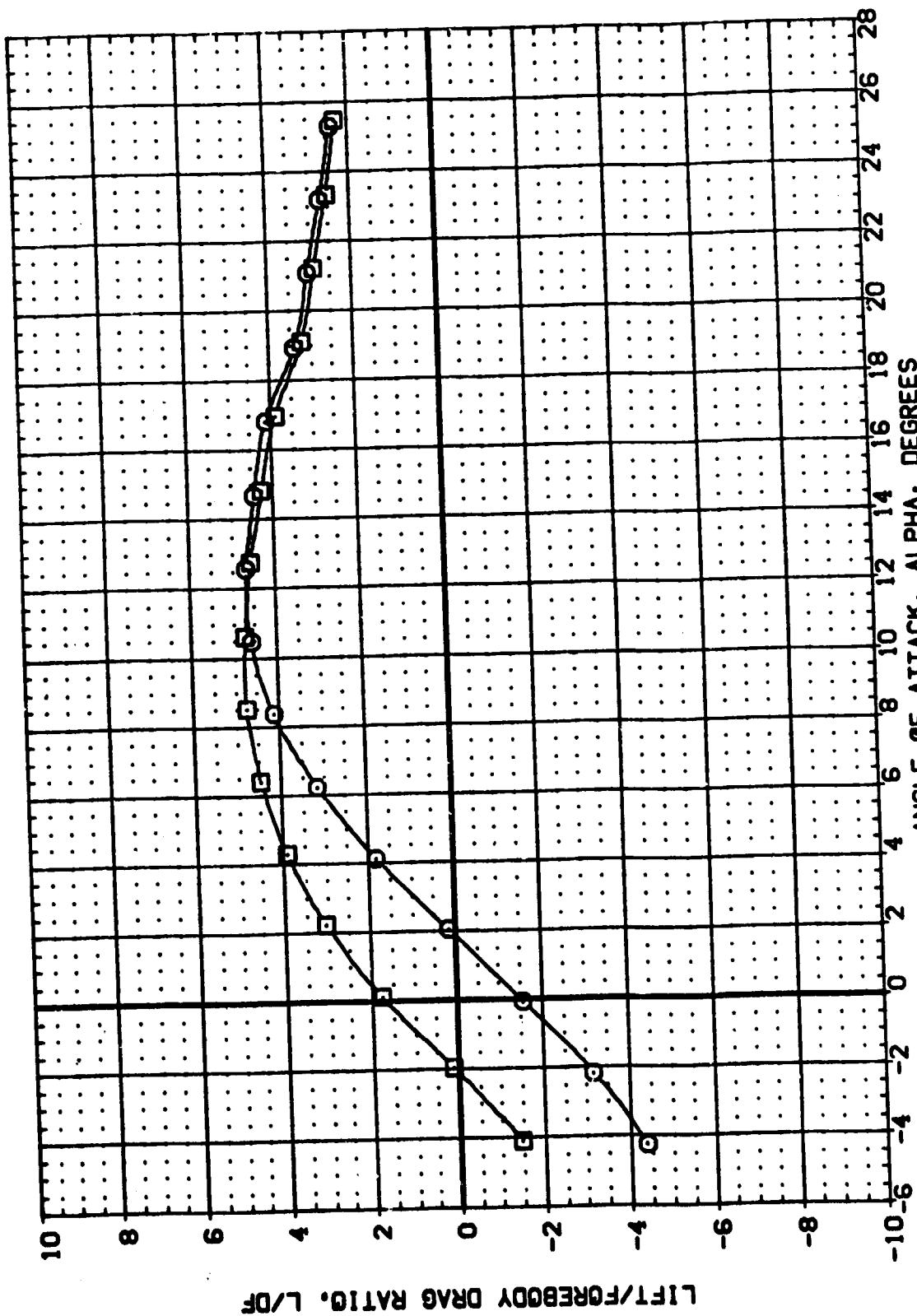


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMB. CONFIGURATION DESCRIPTION  
 (XDP114) 8 8121 8127-04WFS V107E23/7MS3  
 (XDP135) 8 8121 8127-04WFS V107E23/7MS3

ELEVON AILRON BOFLAP SPDRK  
 .000 .000 .000 95.000  
 10.000 .000 -18.000 95.000  
 REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2258 INCHES  
 BREF 37.5355 INCHES  
 XREF 43.5574 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405 INCHES

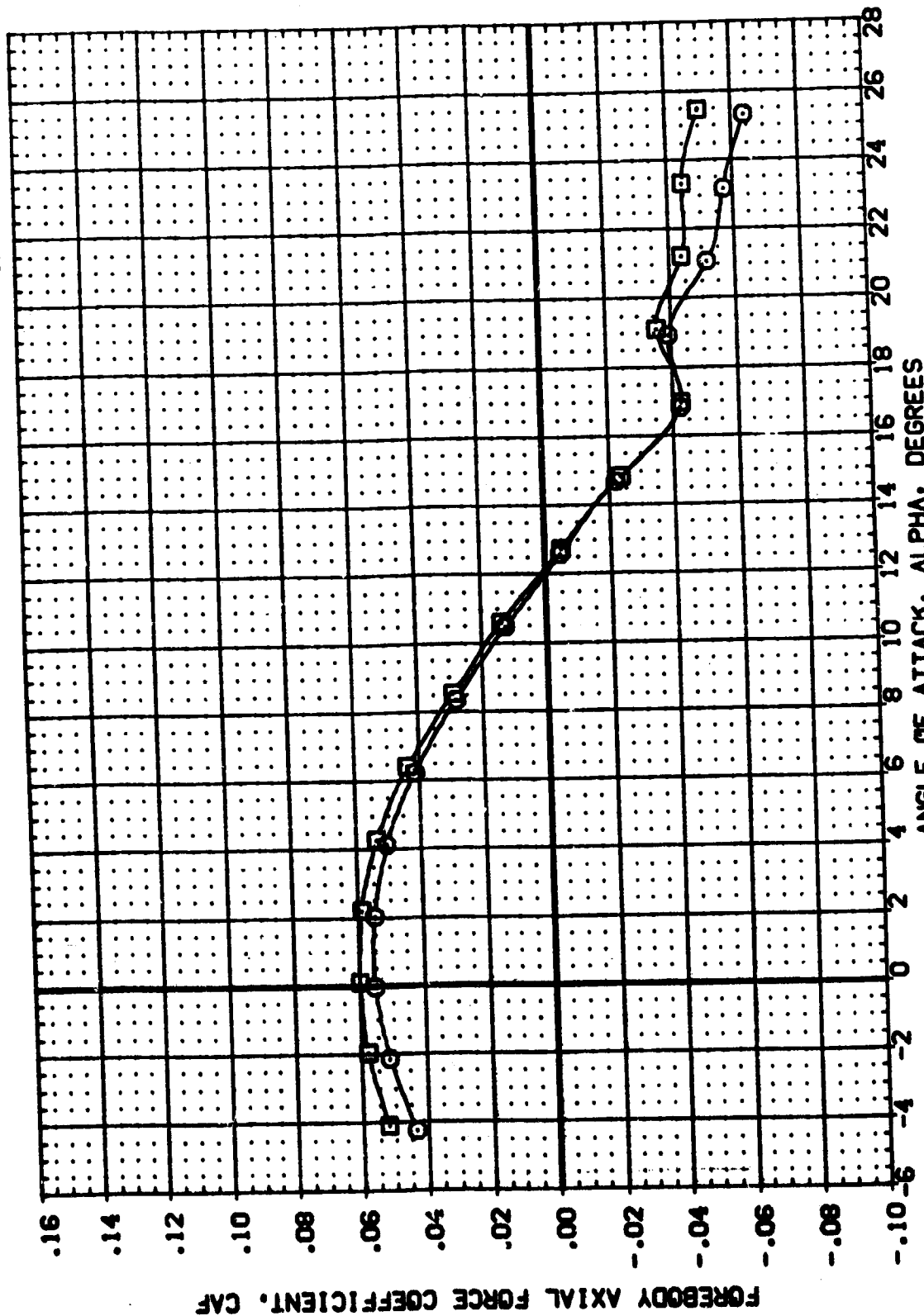


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 817C7A3M4F5  
 CONFIGURATION DESCRIPTION: V107E23V7R6S1S  
 (XDP114) 817C7A3M4F5  
 (XDP135) 817C7A3M4F5

ELEVON: .000  
 AILRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 50. FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 YPRP: 43.5974 INCHES  
 ZPRP: .0000 INCHES  
 SCALE: 16.2000 INCHES  
 .0405

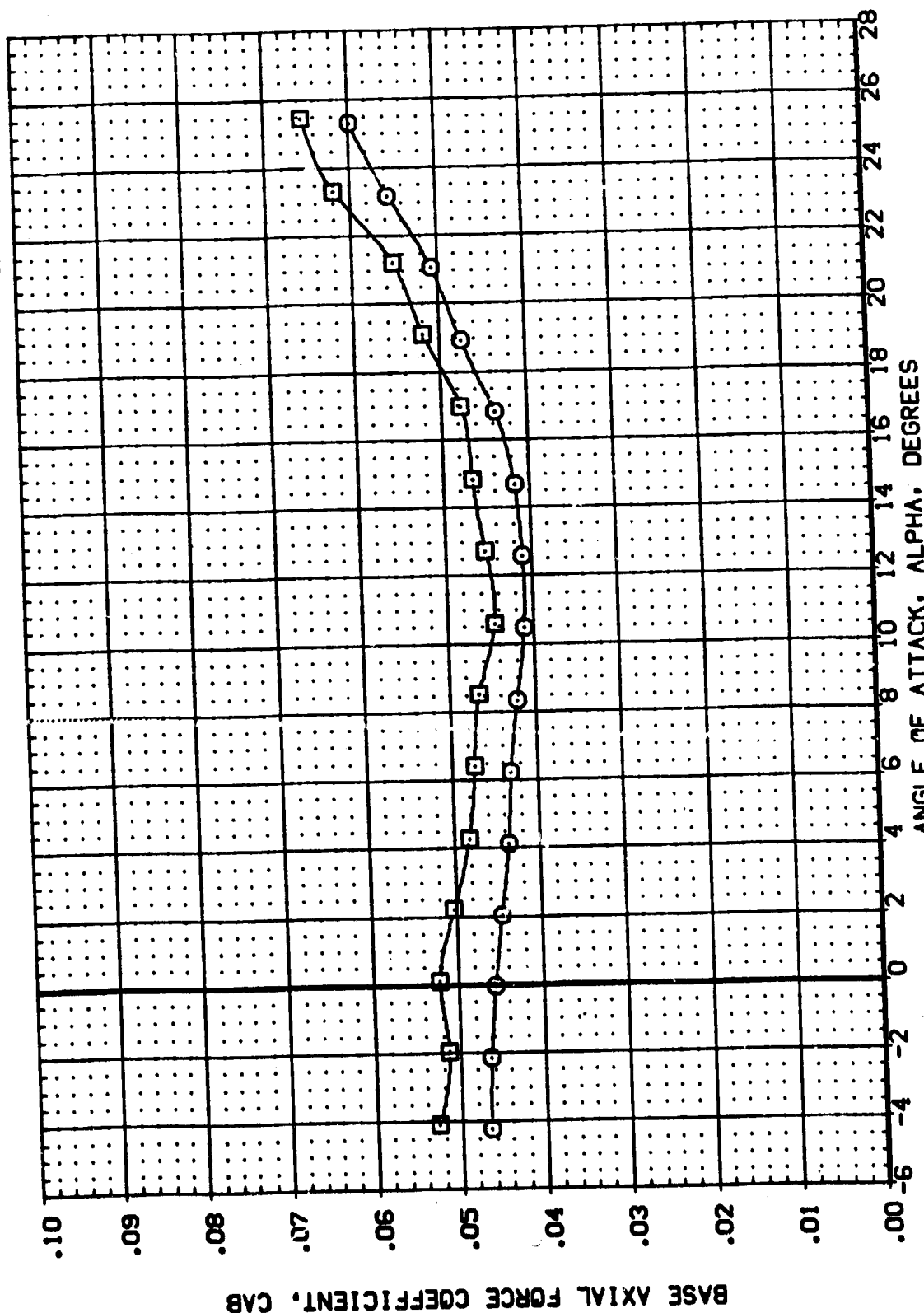


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(XDP114)	8	GA21	817C7GHP3	SREF	4.4119
(XDP135)	8	GA21	817C7GHP3	LRREF	19.2288
				BRREF	37.9388
				YMRP	43.5574
				ZMRP	.0000
				SCALE	16.2000
					.0405
					SCALE

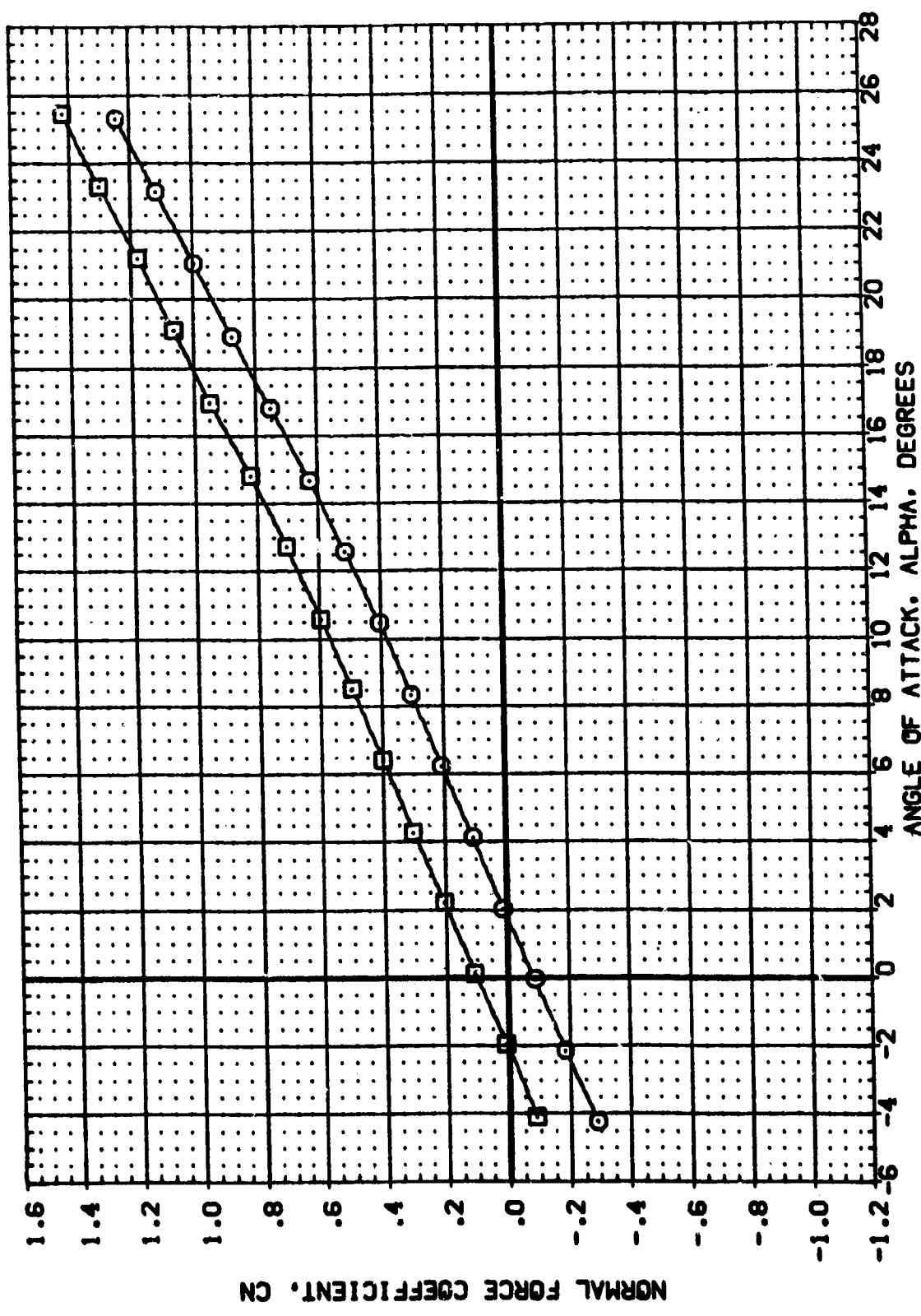


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILUON	BOFLAP	SPOBRK	REFERENCE INFORMATION	
(XOP114)	0A2: B17C7GMFS VI07E23V7R6X9	.000	.000	-18.000	55.000	SREF	4.4119 50.FT.
(XOP135)	0A21 B17C7GMFS VI07E23V7R6X9	10.000	.000	-18.000	55.000	LREF	19.2299 INCHES
						BREF	37.9359 INCHES
						YARP	43.5974 INCHES
						YARP	.0000 INCHES
						ZARP	16.2000 INCHES
						SCALE	.0405

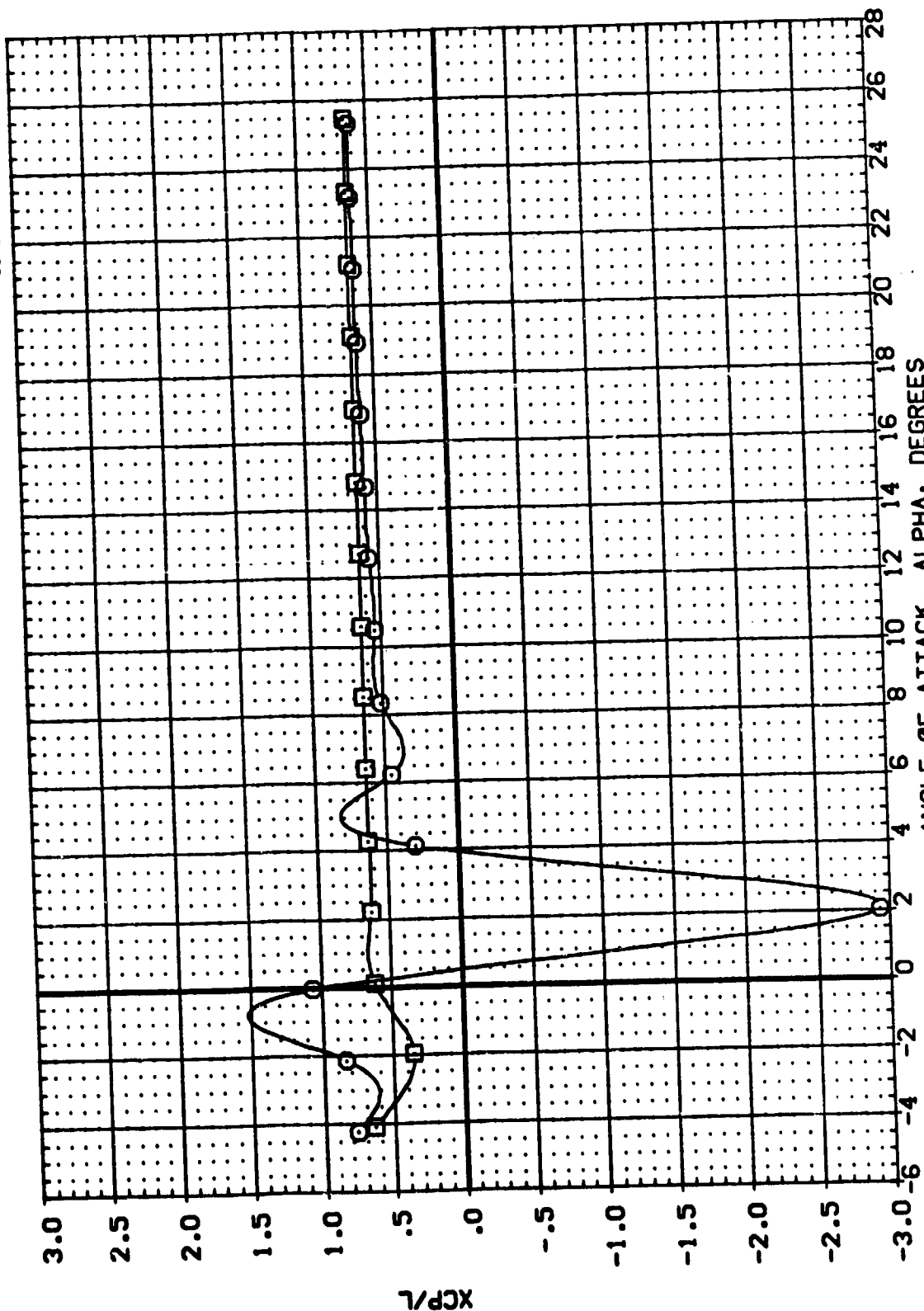


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL: 8  
 (XOP114) 8A21 B17C7HGMF5 V107E23V7R5X5  
 (XOP135) 8A21 B17C7HGMF5 V107E23V7R5X5

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT. INCHES  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP 10.000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

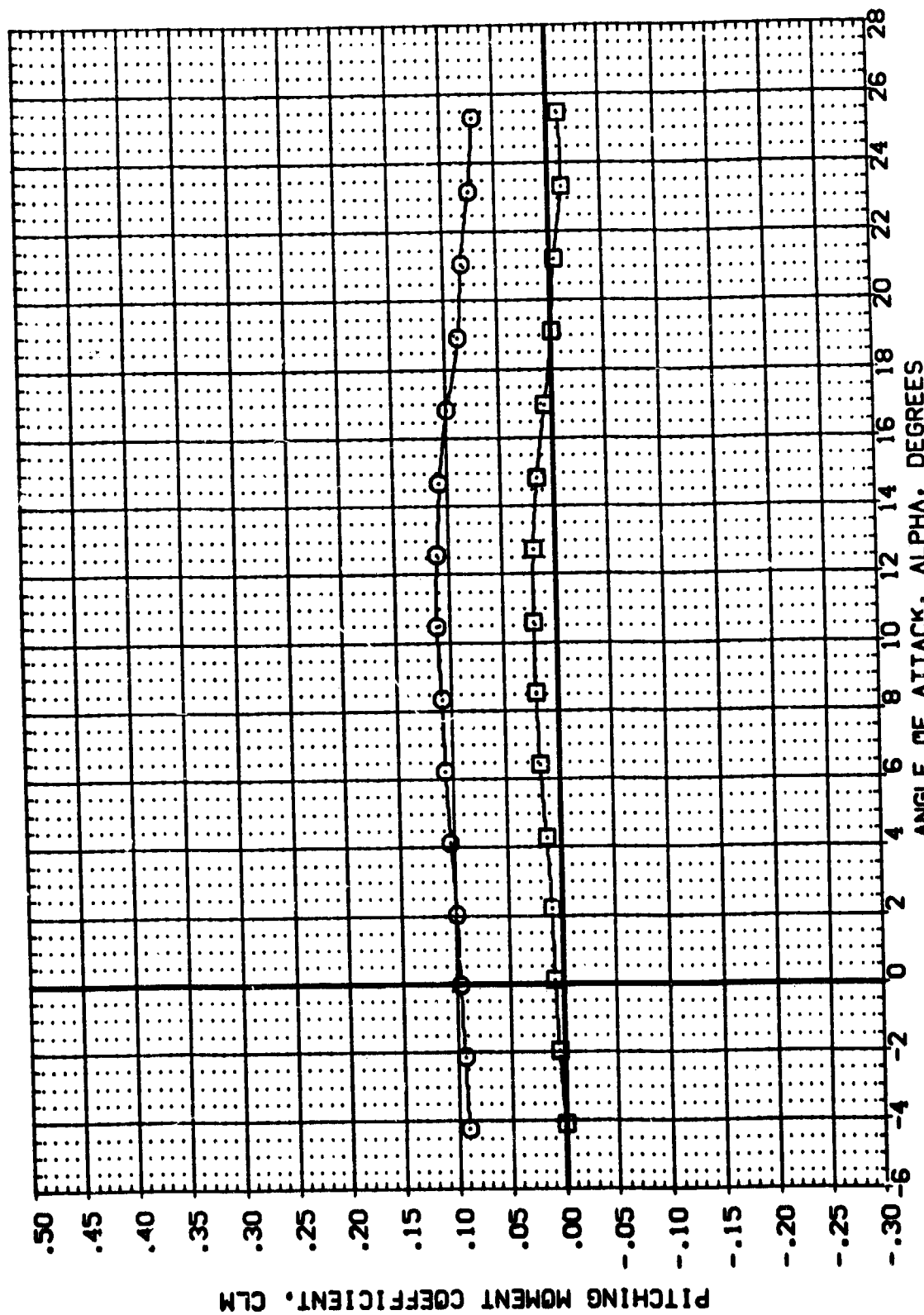


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 0A21  
 CONFIGURATION DESCRIPTION: B17C74GMF5 V107E23V7R6X9

MAVELE 10.000  
 DELELE 10.000  
 BOFLAP -18.000  
 SPOBRK 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2258 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

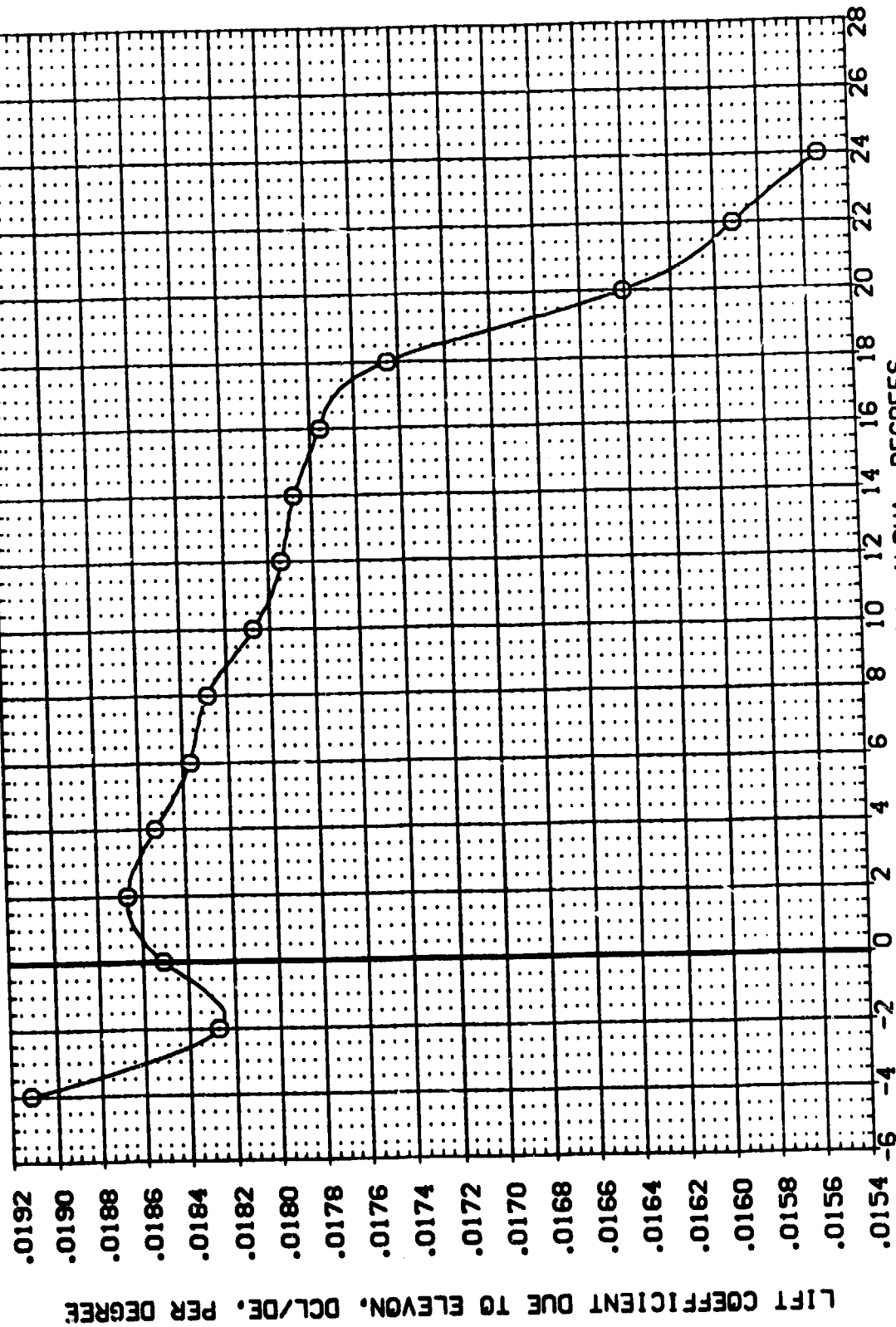


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(Y0135) O 0421 817C7H3M4FS V107E23V7R6X5

MAXELE 10.000 DELELE 10.000 BDCLAP 55.000

REFERENCE INFORMATION  
SREF 4.4119 50.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5574 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

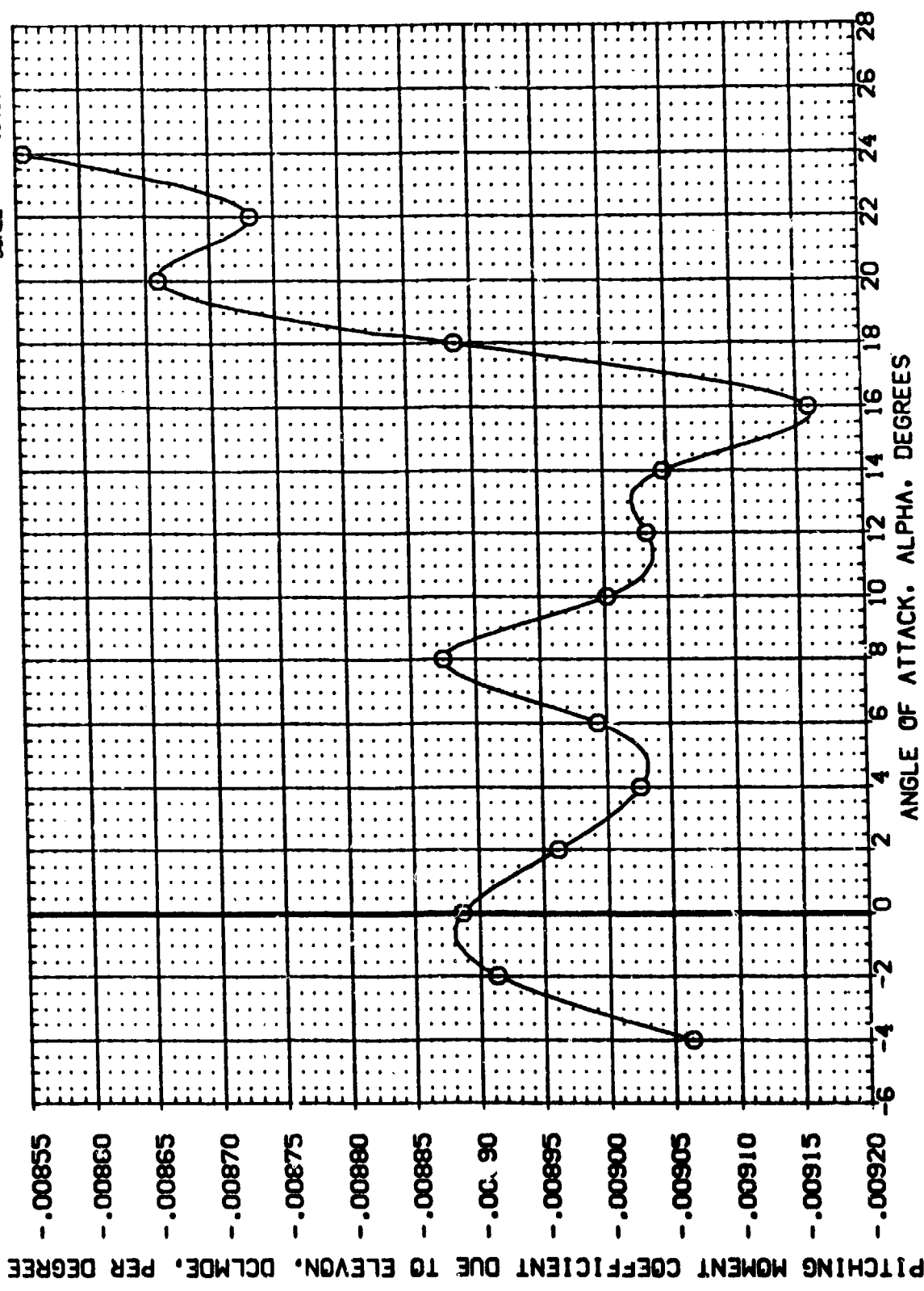


FIGURE 13 ELEVON EFFECTIVENESS WITH H3 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 129173  
 COORDINATE DESCRIPTION: 31.727 44.415 VICTE237R6X9  
 CA2: 9.727 44.415 VICTE237R6X9

ELEVON: 10.000  
 AILRON: 10.000  
 BOFLAP: -18.000  
 SPOON: 55.000

REFERENCE INFORMATION:  
 SREF: 4.419  
 LREF: 19.229  
 BREF: 37.839  
 VREF: 43.584  
 WREF: 16.000  
 SCALE: 0.000

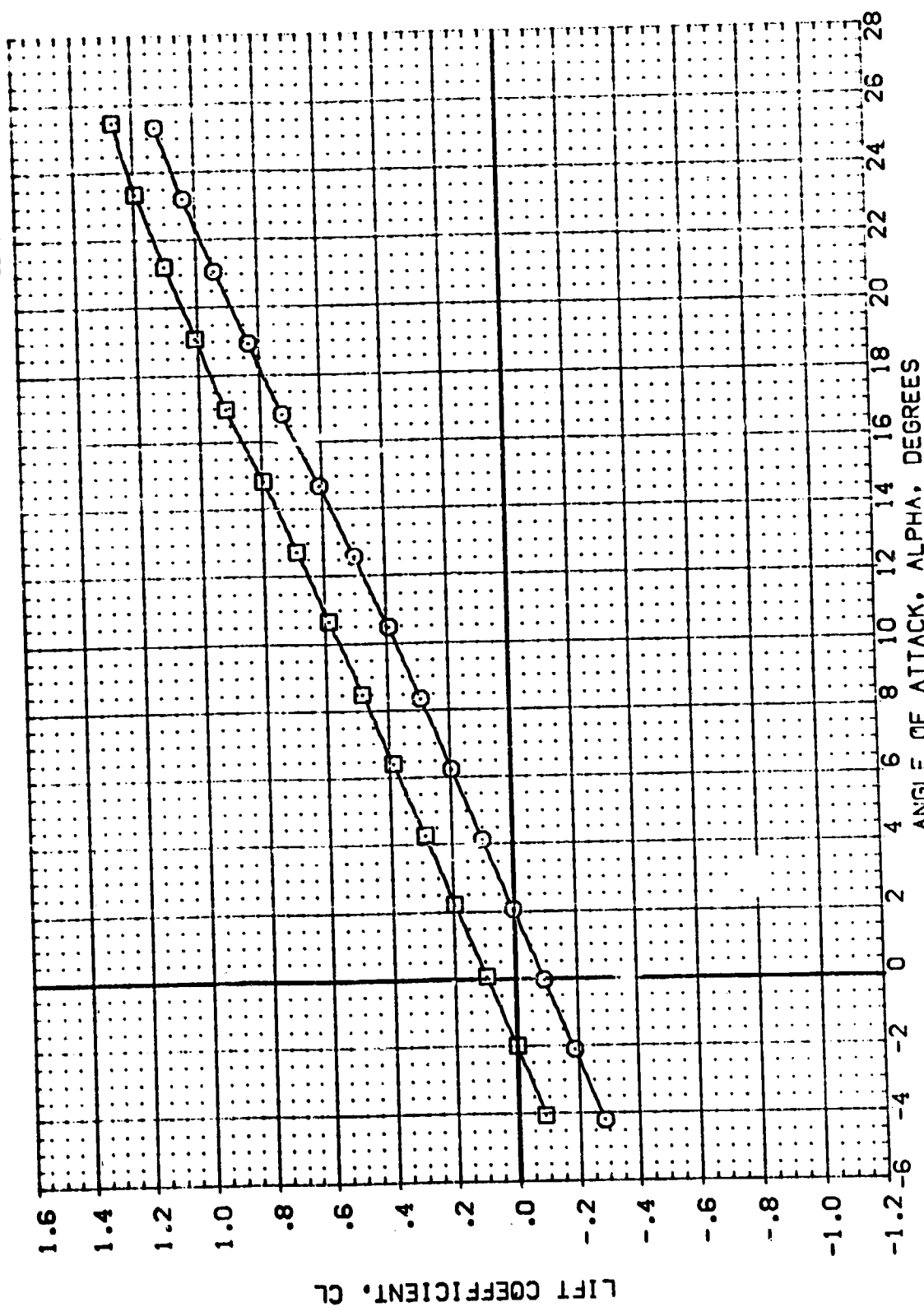


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .25

DATA SET SYMBOL: E  
 CONFIGURATION DESCRIPTION: V107E23V7R6X9  
 CA2: 91757 H4M4F5  
 CA2: 81757 H4M4F5

ELEVON: 0.000  
 AIRFOIL: 0.000  
 BOFLAP: -18.000  
 SPDRK: 55.000  
 REFERENCE INFORMATION:  
 SREF: 4.419  
 LREF: 19.289  
 BREF: 37.859  
 XREF: 43.884  
 YREF: 16.200  
 ZREF: 16.200  
 SCALE: 1.000

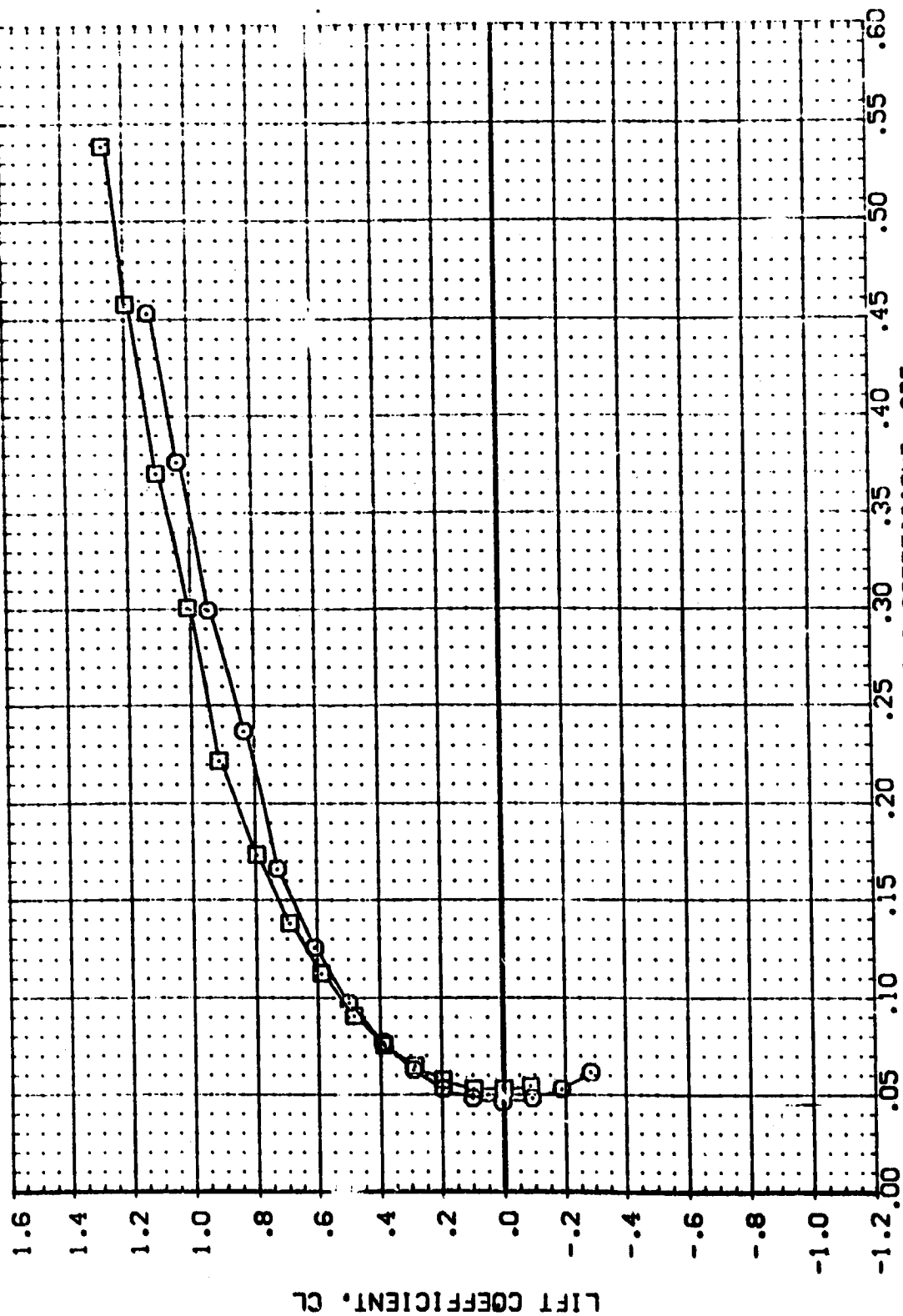


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)YACH = .26

DATA SET SYMBOL: 021  
 CONFIGURATION DESCRIPTION: B17C7 H4M4FS V107E23V7R6X8  
 B17C7 H4M4FS V107E23V7R6X8

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP 16.0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .04CS

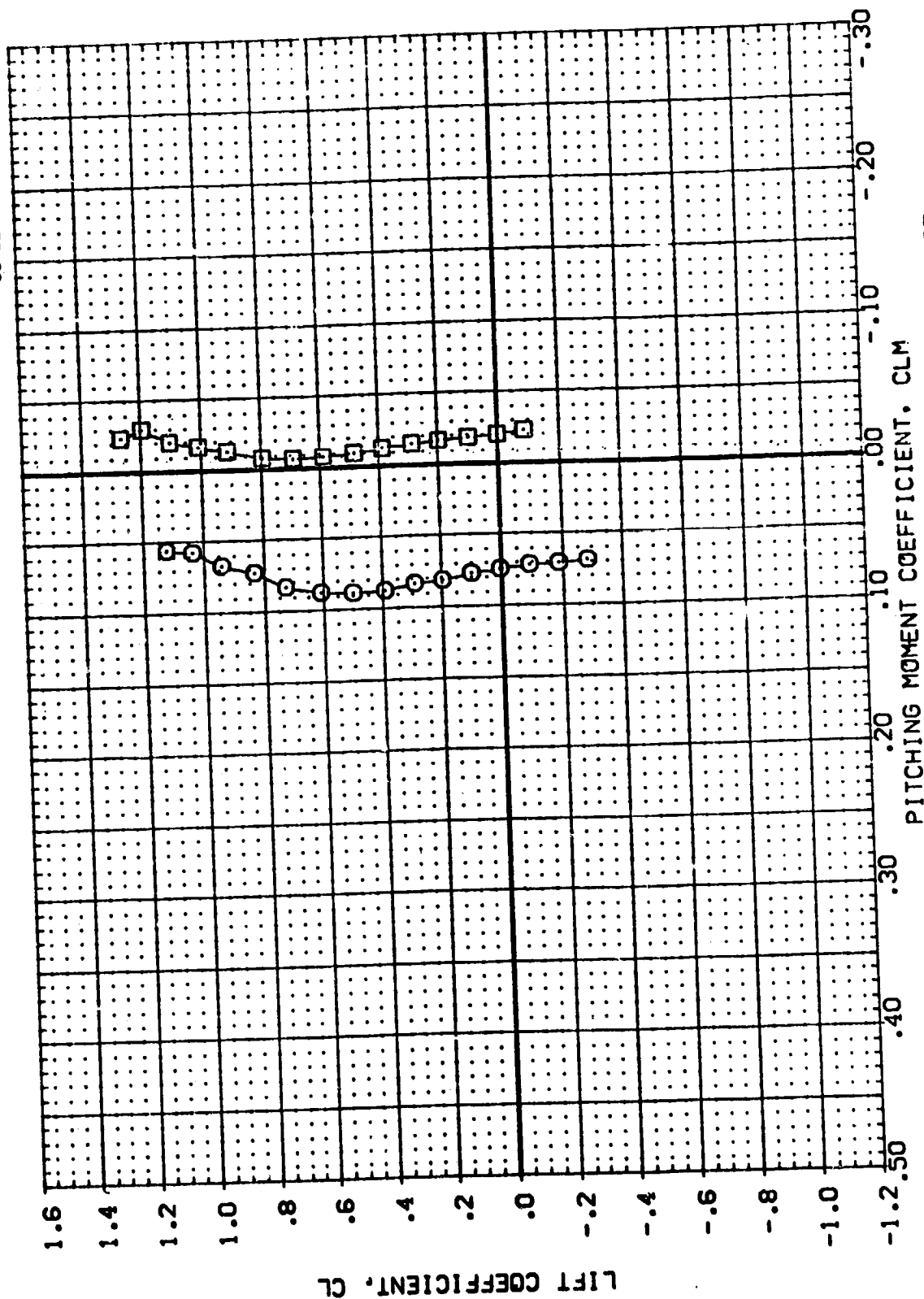


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

DATA SET SYMBOL: (DP17) 8  
(DP136) 8

CONFIGURATION DESCRIPTION:  
0A21 817C7 H4M4FS V107E23V7R6X9  
0A21 817C7 H4M4FS V107E23V7R6X9

ELEVON ALLISON BOFLAP SPOBRK  
ELEVON .000 .000 55.000  
10.000 .000 55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.9974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

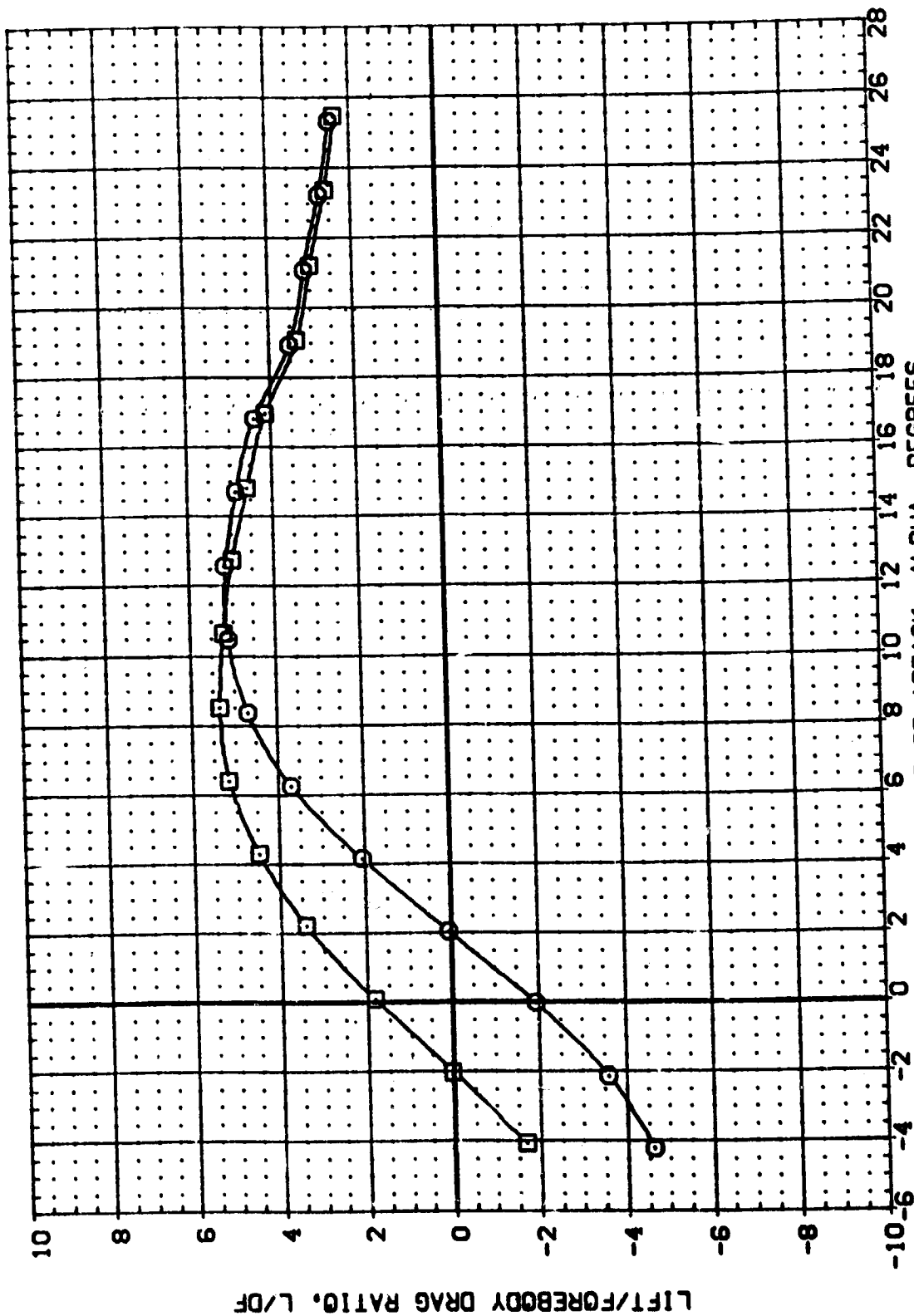


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (1D117) 0A21 817C7 H4M4FS V107E23V7R6X3  
 (1D136) 0A21 817C7 H4M4FS V107E23V7R6X3

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2288 INCHES  
 BREF 37.9559 INCHES  
 XMRP 43.9574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

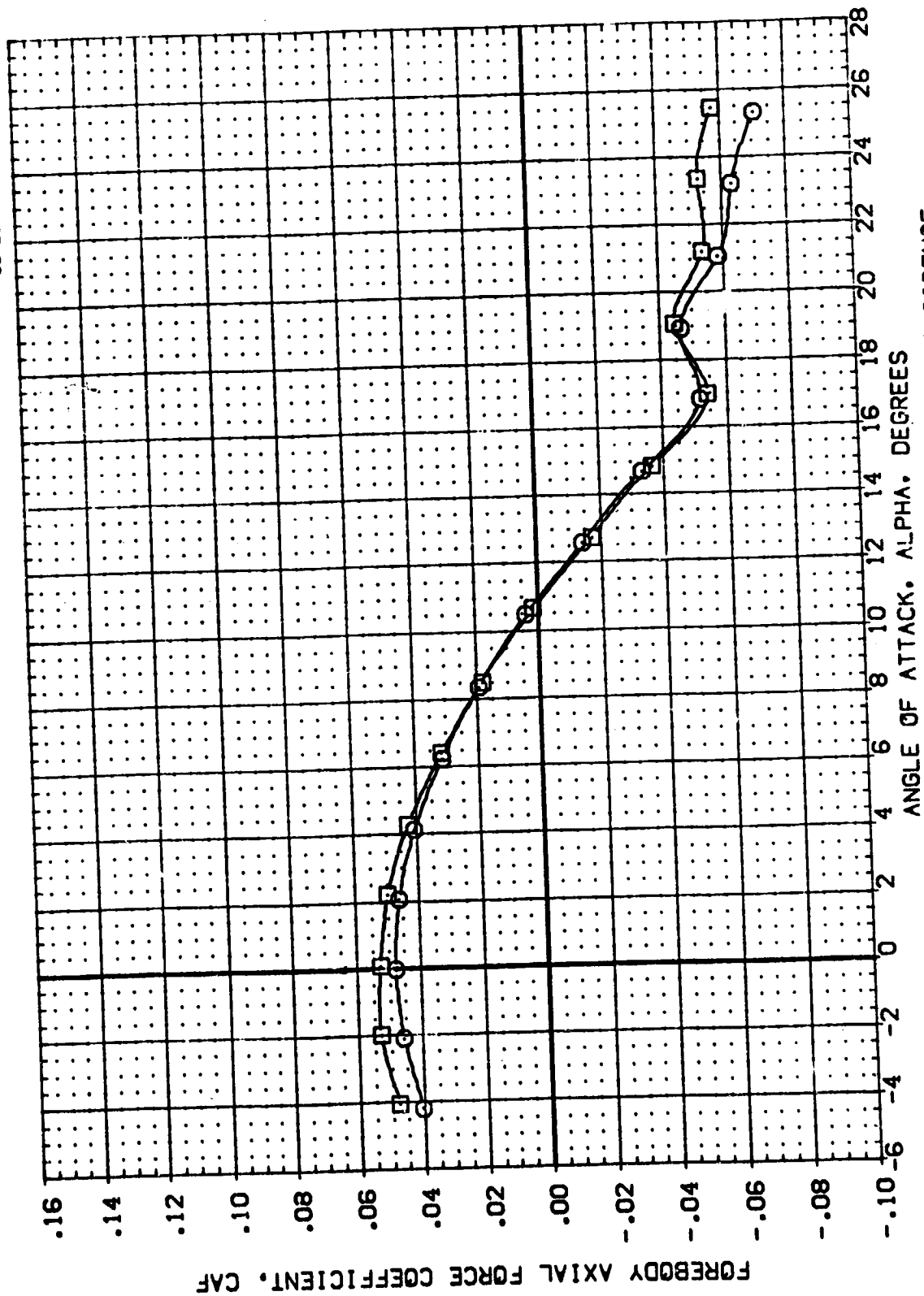


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

CAJMACH = .26



DATA SET SYMBL. CONFIGURATION DESCRIPTION  
 (10P117) 0A21 817C7 H4M4F5 V107E23V76X3  
 (10P136) 0A21 817C7 H4M4F5 V107E23V76X3

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5874 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

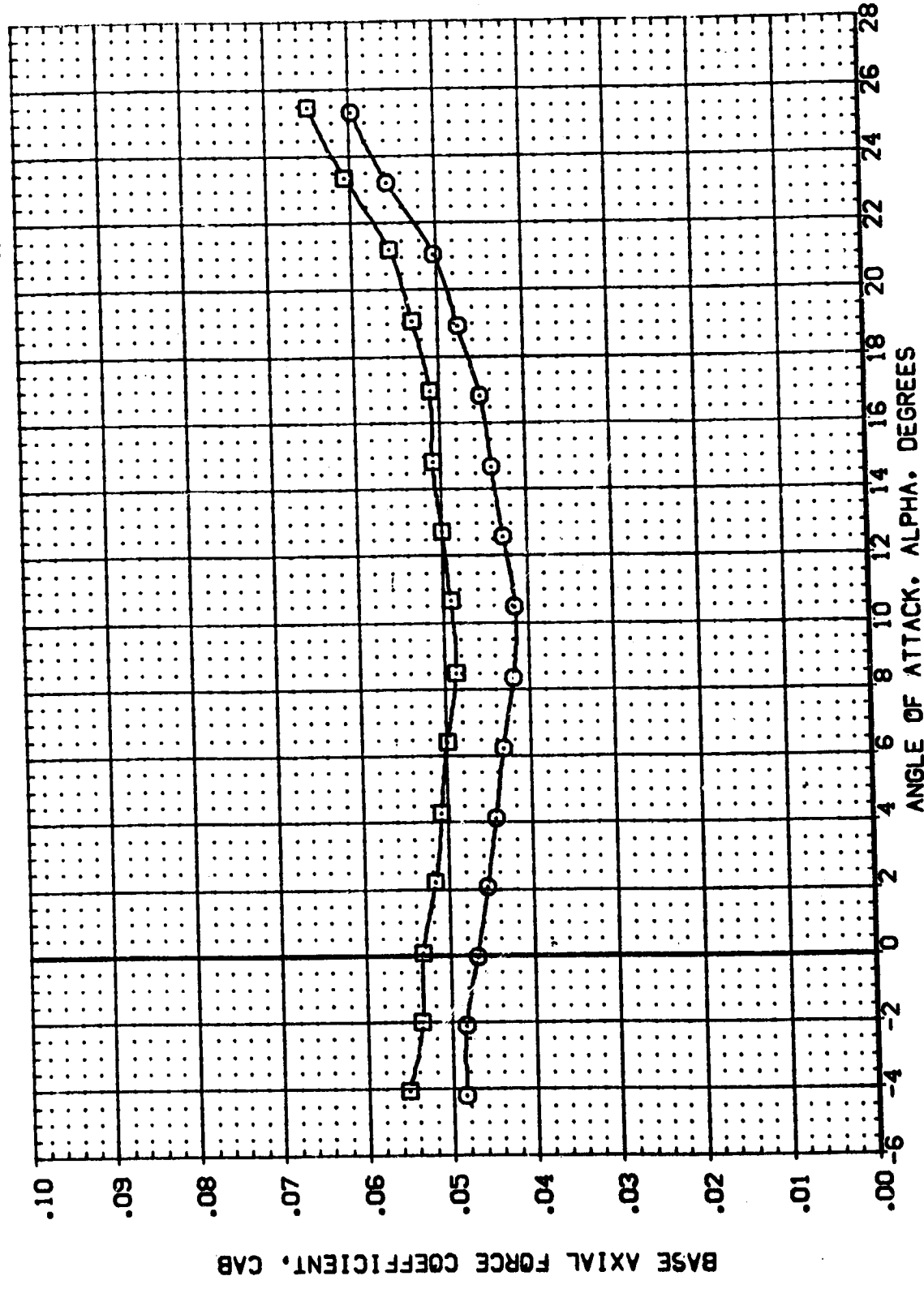


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP117)	Q421	B17C7 H4M4FS	V107E23V7R6X9	SREF	4.4119
(IDP136)	Q421	B17C7 H4M4FS	V107E23V7R6X9	LREF	19.2299
				BREF	37.9359
				XMRP	43.5574
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405
					INCHES
					SO. FT.

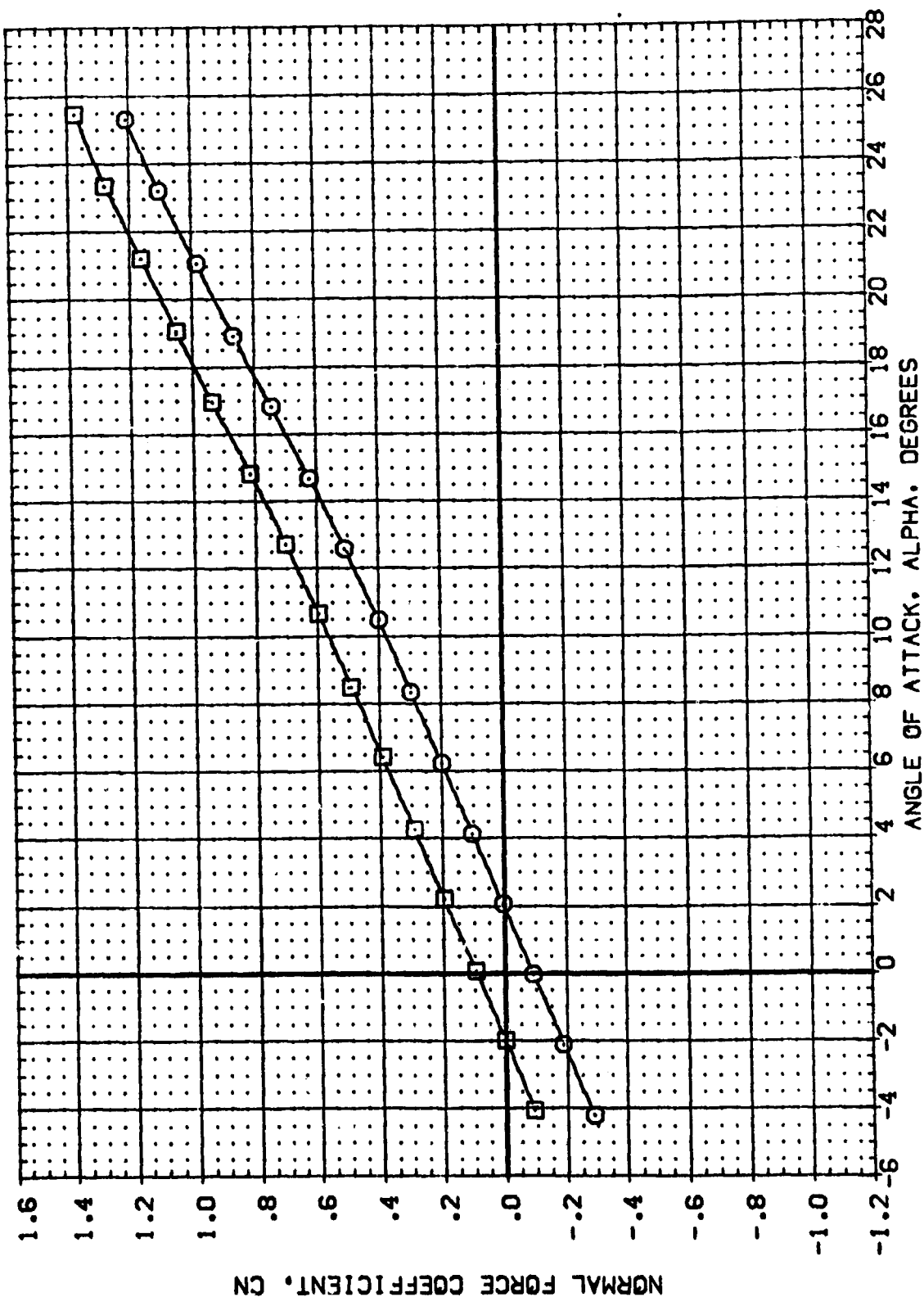
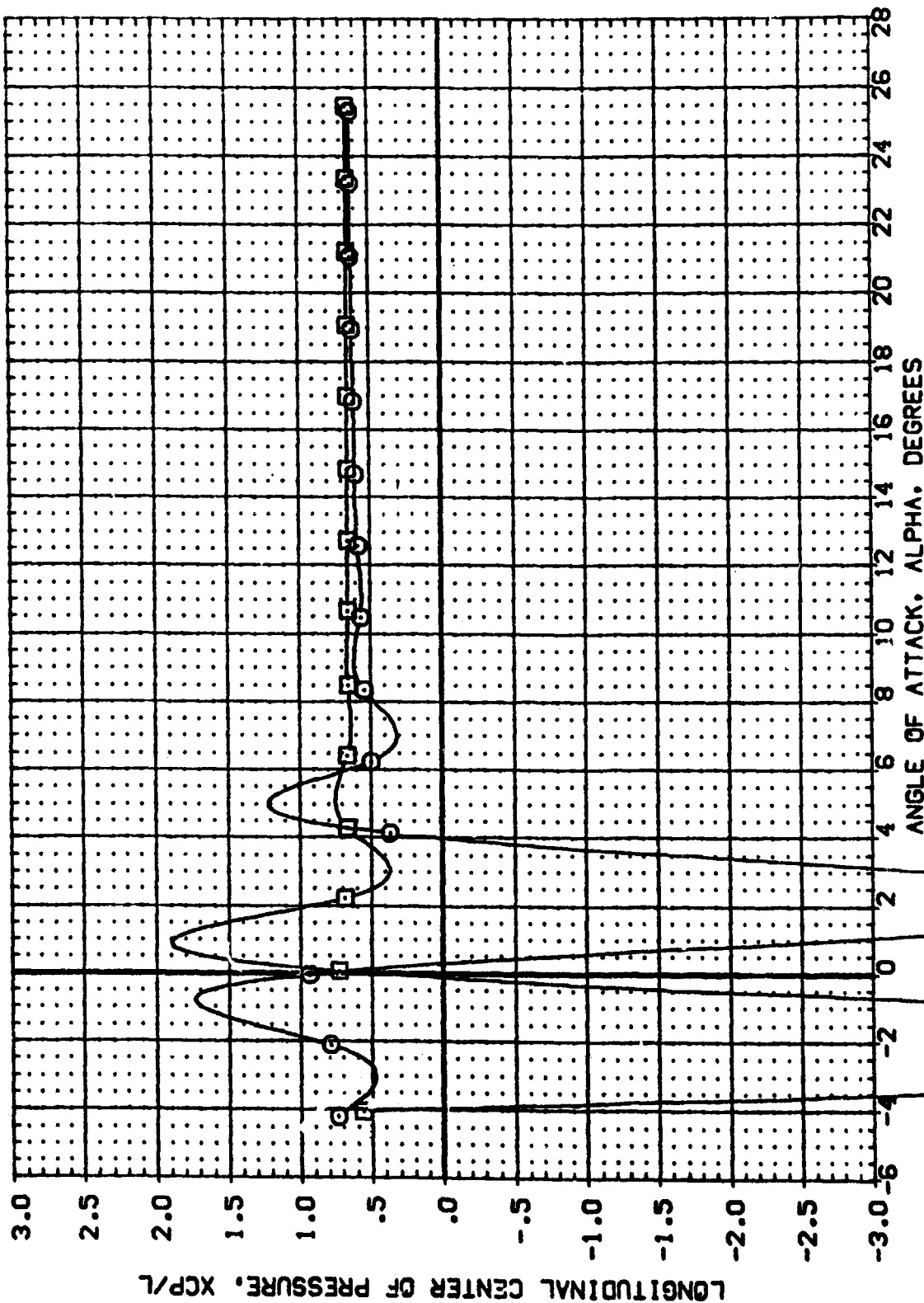


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILRON		BOFLAP		SPORRK		REFERENCE INFORMATION	
[IDP117]	QAZ1	817C7	H4M4F5	V107E23V7R6X3	.000	.000	.000	-18.000	55.000	SREF	4.4119	50.000	INCHES
[IDP136]	QAZ1	817C7	H4M4F5	V107E23V7R6X3	10.000	.000	.000	-18.000	55.000	LREF	19.2259	INCHES	
										BREF	37.9359	INCHES	
										XTRP	43.5974	INCHES	
										YTRP	16.0000	INCHES	
										ZTRP	16.0000	INCHES	
										SCALE	.0405	SCALE	



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP17)	DA21	B17C7 HMMF5	V107E23V7R6X5	SREF	4.4119
(IDP136)	DA21	B17C7 HMMF5	V107E23V7R6X5	REF	19.2299
				REF	37.9359
				REF	43.5874
				REF	.0000
				REF	16.2000
				REF	.0405
				REF	SCALE

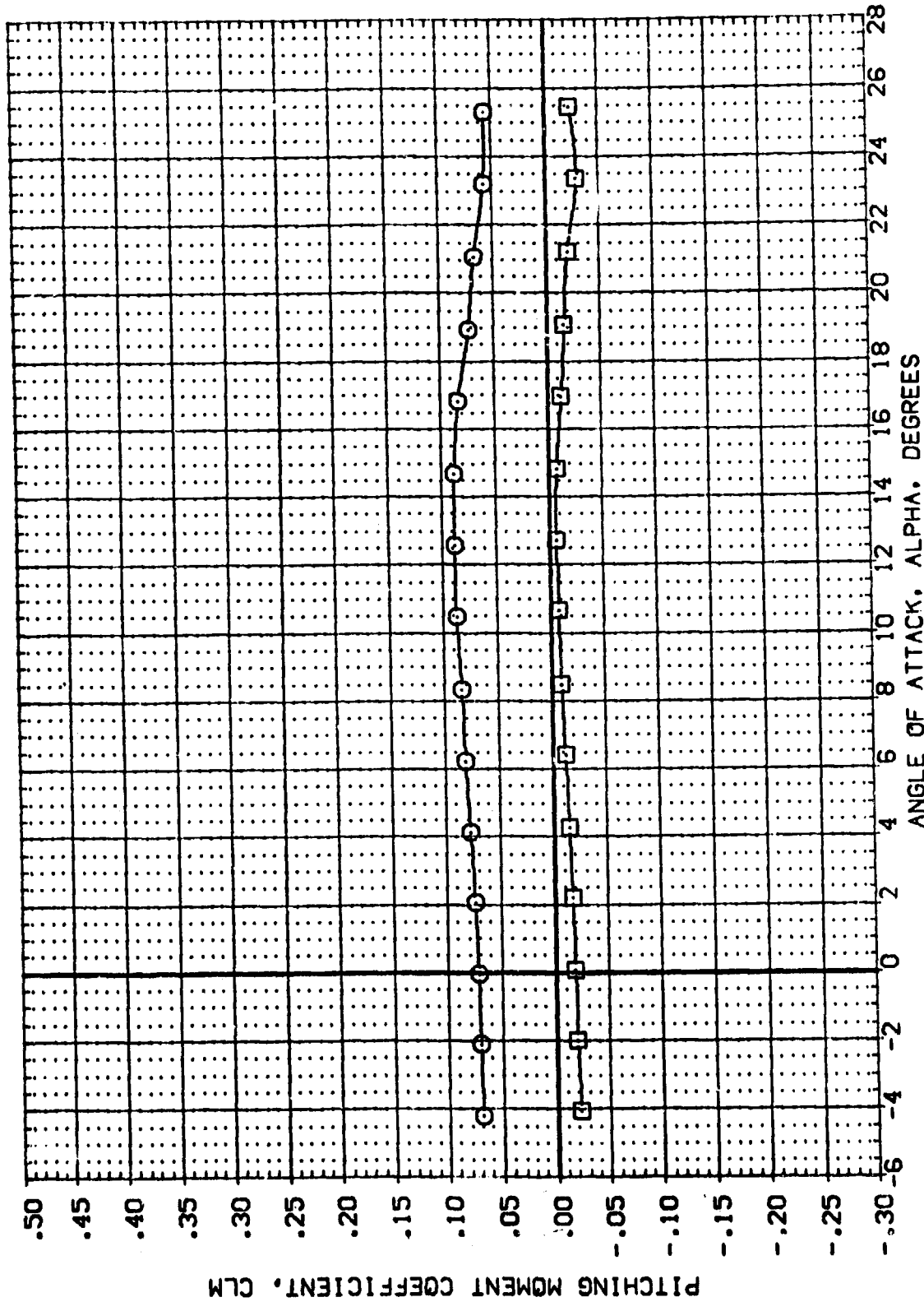


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 0A21 B17C7 H4M4F5 V107EZ3V76X9

MAXELE 10.000  
DELELE 10.000  
BOLFLAP -18.000  
SPORBK 55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.7239 INCHES  
BREF 37.9359 INCHES  
XREF 43.5974 INCHES  
YREF 16.0000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

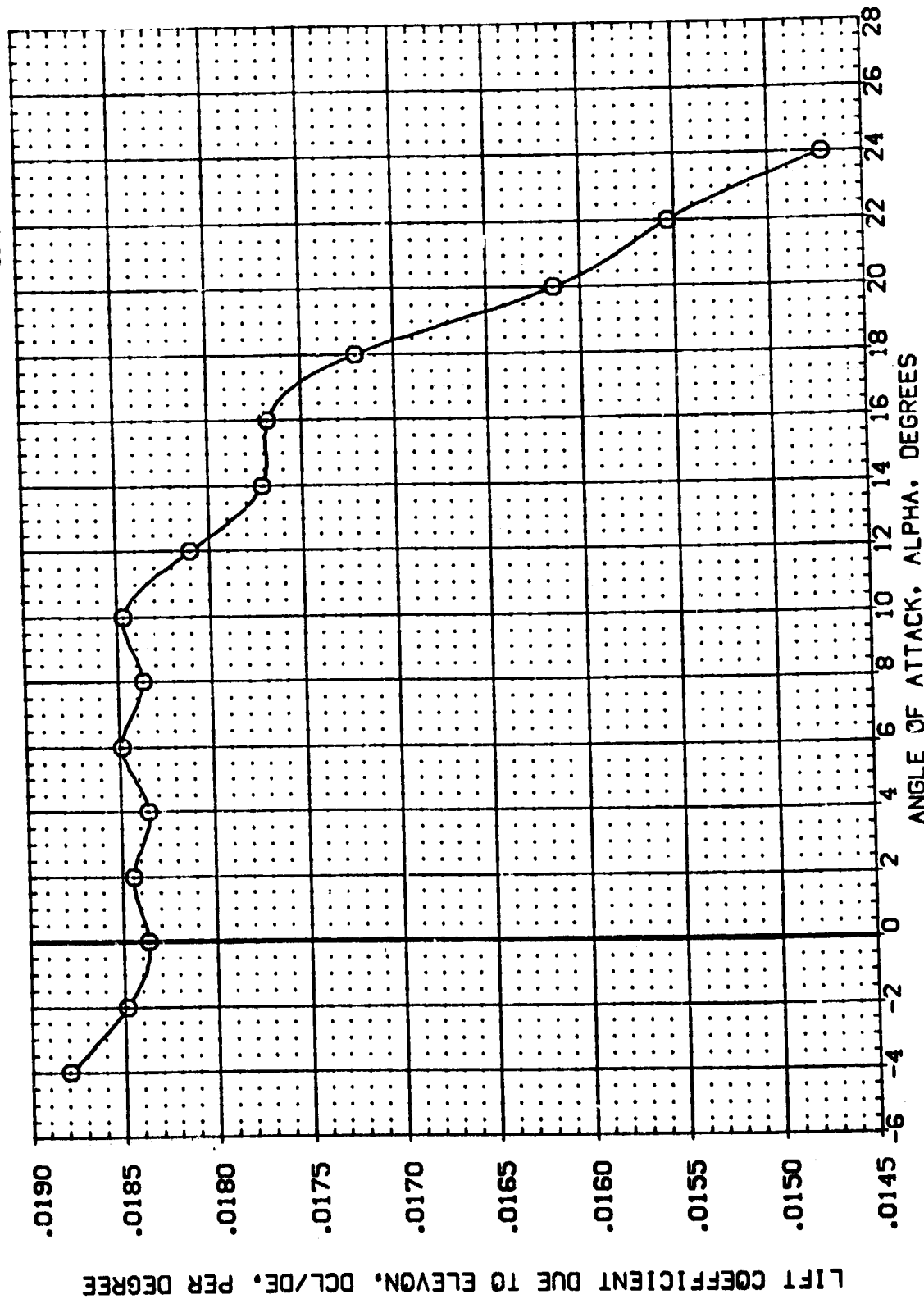


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
(00P136)    ○    0A21    B17C7 H4M4F5    V107E23V7R6X9

MAXELE    DELELE    BOFLAP    SPOBRK  
10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
SREF    4.4119    SQ.FT.  
LREF    19.2288    INCHES  
BREF    37.9359    INCHES  
XMRP    43.5974    INCHES  
YMRP    .0000    INCHES  
ZMRP    16.2000    INCHES  
SCALE    .0405    SCALE

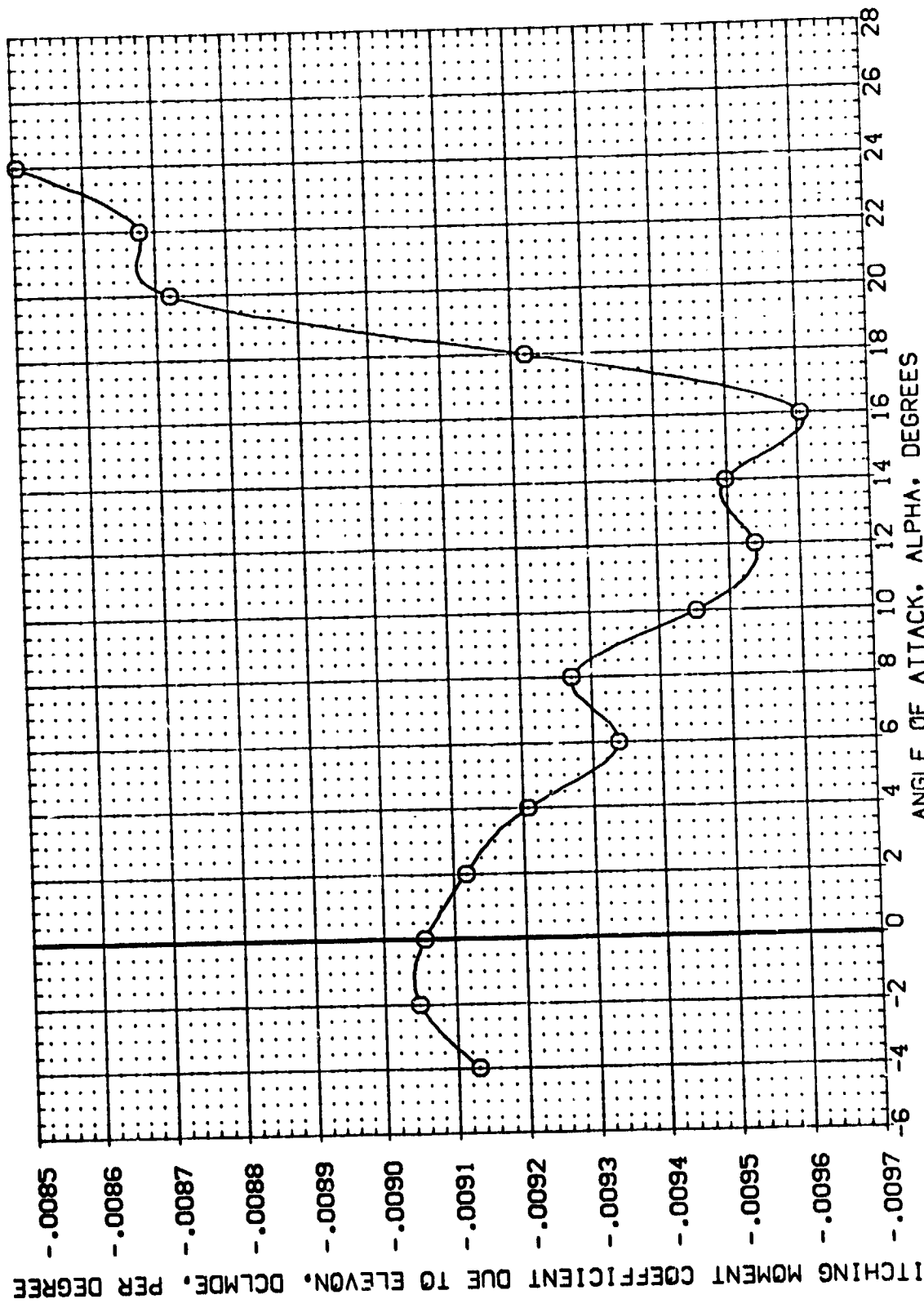


FIGURE 14 ELEVON EFFECTIVENESS WITH H4 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP18)	0A21	B17C7 H4M4F5	V107E23V7R6X9	SREF	4.4119
(IDP137)	0A21	B17C7 H4M4F5	V107E23V7R6X9	LREF	19.2299
				BREF	37.9359
				YMRP	43.5974
				ZMRP	16.0000
				SCALE	16.0000
					SCALE

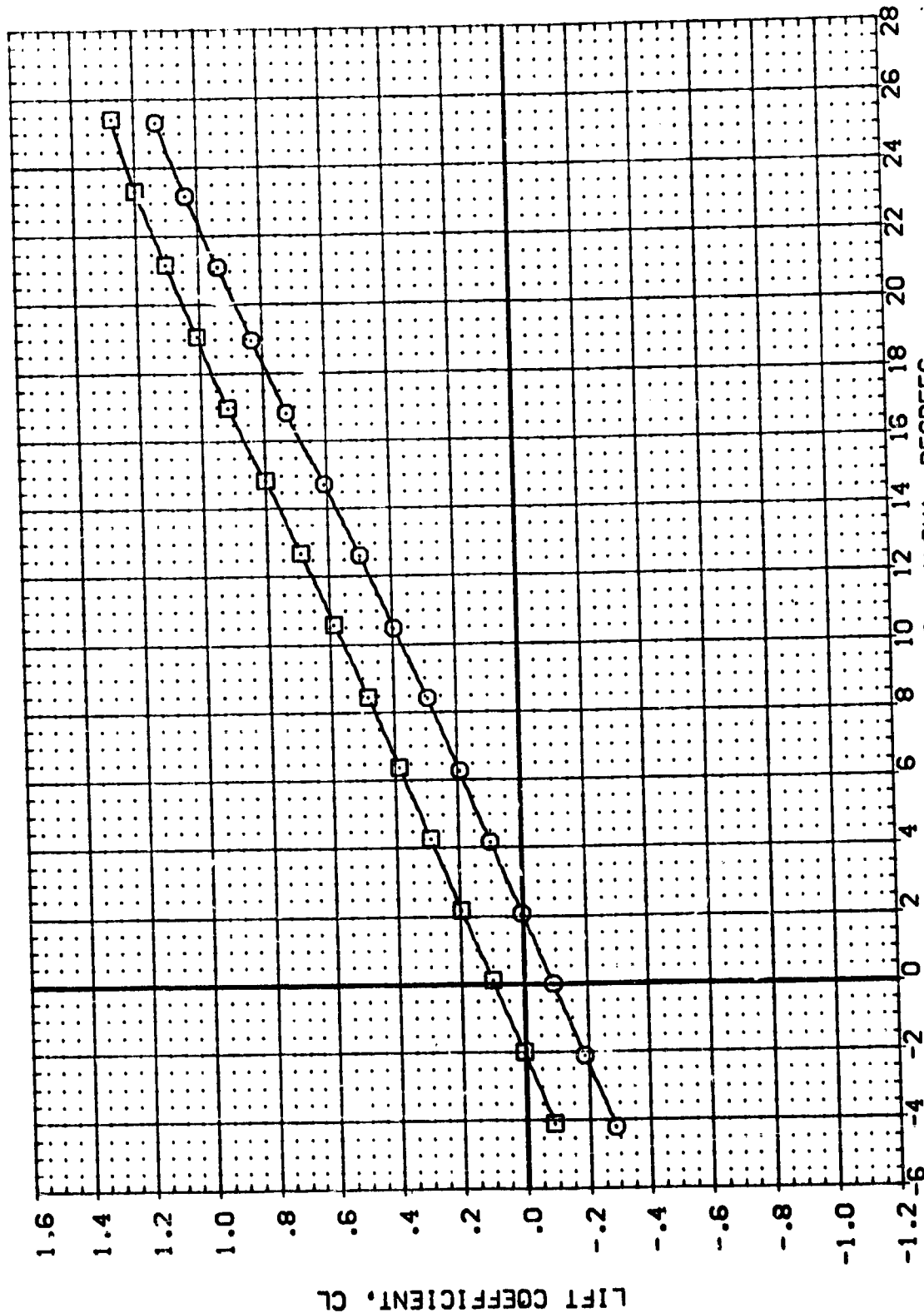


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26





DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(IDP118)	DA21 817C7 H4M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SC.FT. INCHES
(IDP137)	DA21 817C7 H4M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

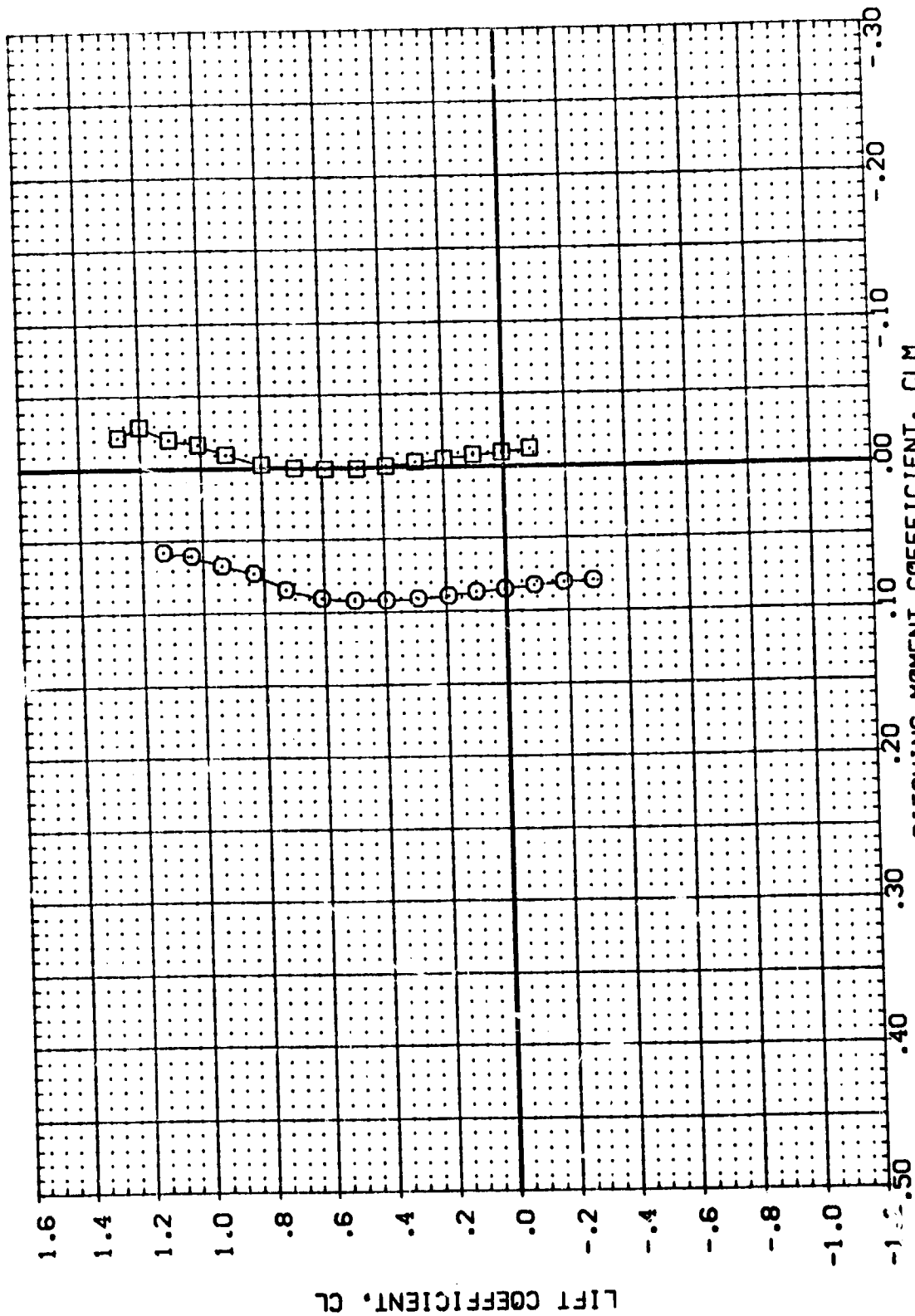


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP118) □ 0A21 817C7 H4M4F5 V107E23V7R6X3  
 (IDP137) □ 0A21 817C7 H4M4F5 V107E23V7R6X3

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF 16.0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

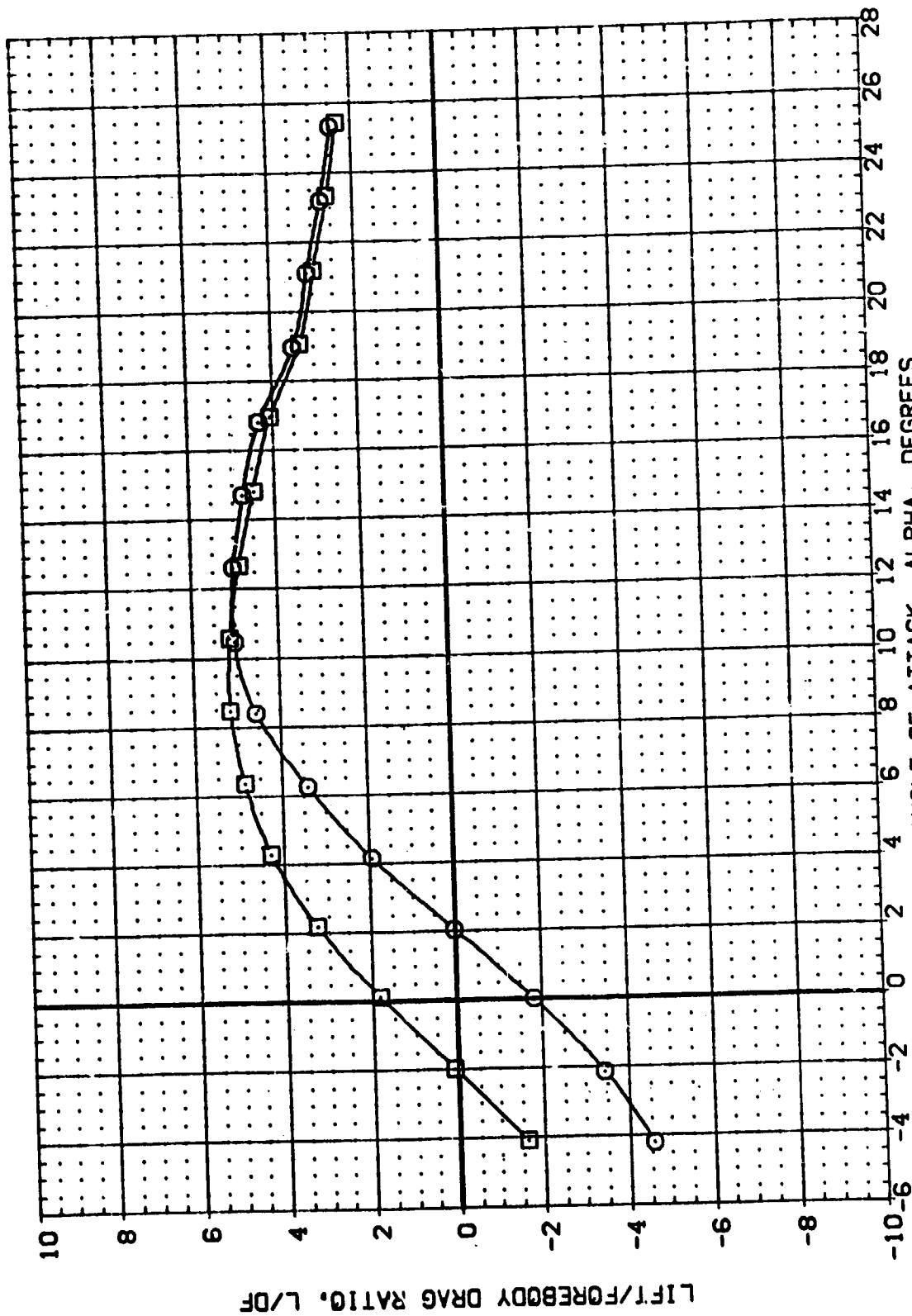


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10P118) 9 CA21 B17C7 H4M4FS V107E23V7R6X9  
 (10P137) 9 CA21 B17C7 H4M4FS V107E23V7R6X9

ELEVON AILRON BD FLAP SPOBRK REFERENCE INFORMATION  
 .000 .000 -18.000 55.000 SREF 4.4119 50. FT.  
 10.000 .000 -18.000 55.000 LREF 19.2299 INCHES  
 XREF 37.9259 INCHES  
 YREF 43.5874 INCHES  
 ZREF .0000 INCHES  
 SCALE 16.2000 INCHES  
 .0405 SCALE

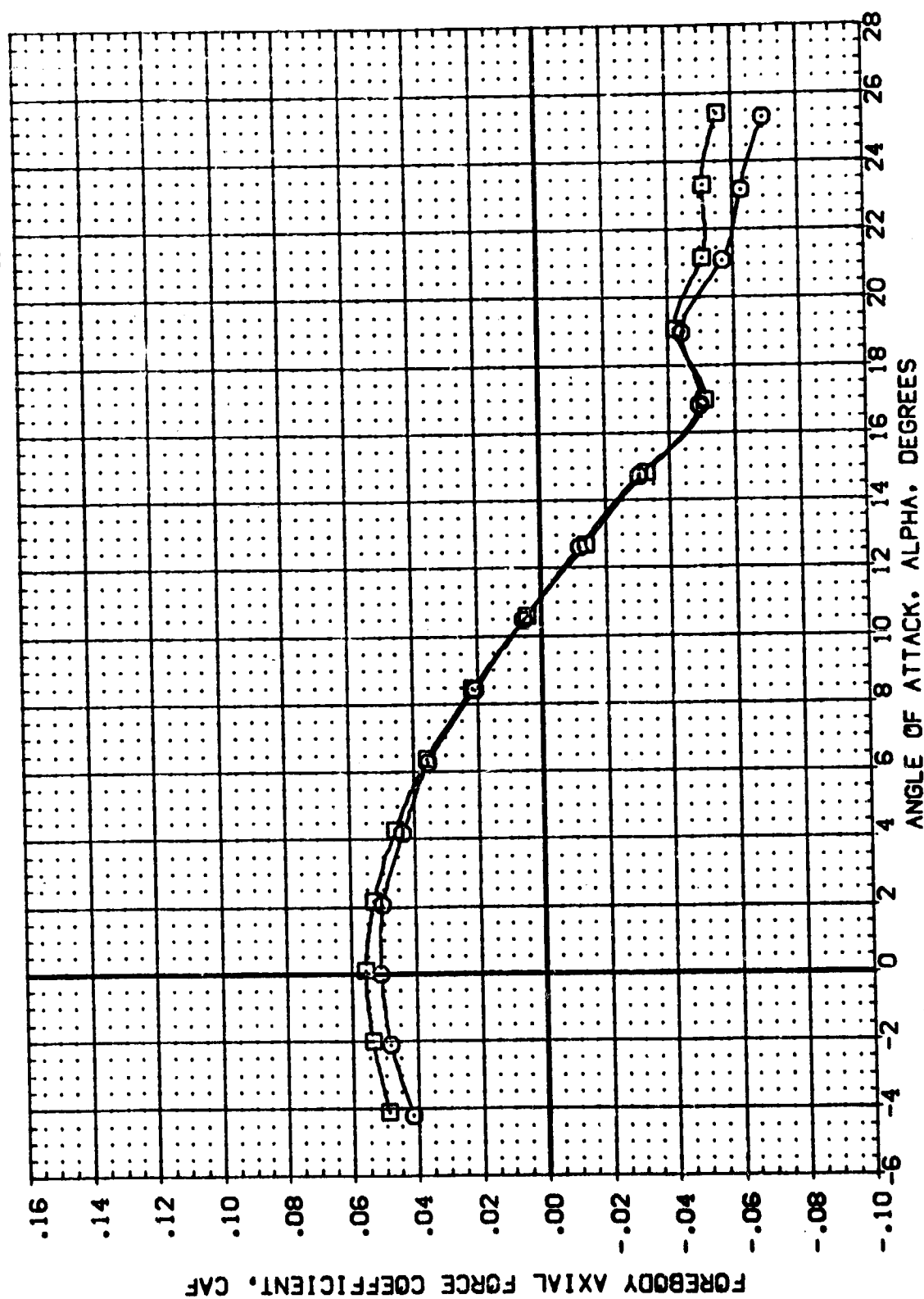


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP18) 0A21 B17C7 H4M4F5 V107E23V7R6X9  
 (IDP137) 0A21 B17C7 H4M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2288 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405 SCALE

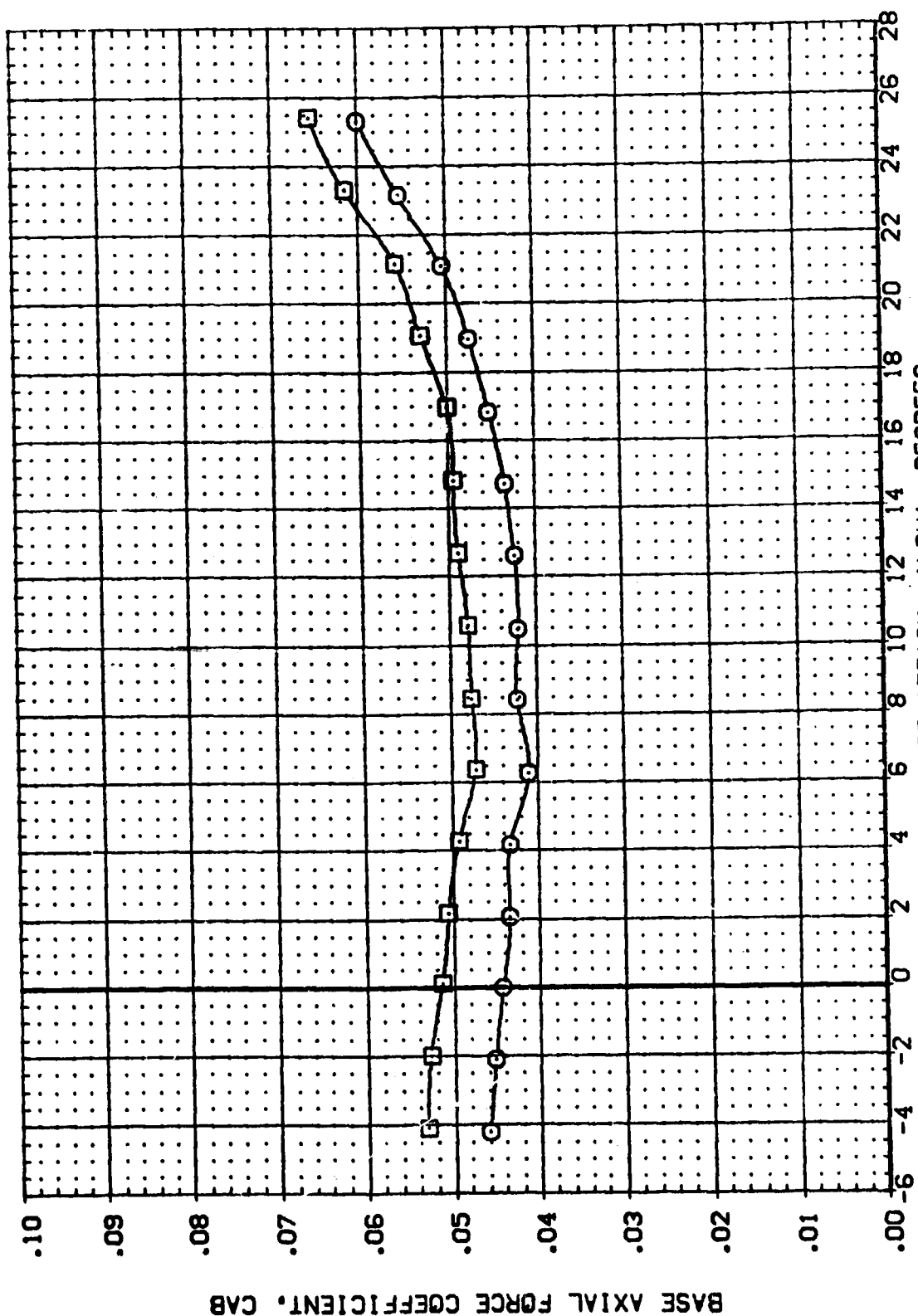


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (DP118)    0A21    B17C7 M4M4S    V107E23V7R6X3  
 (DP137)    0A21    B17C7 M4M4S    V107E23V7R6X3

ELEVON    AIRLON    BDFLAP    SPOBRK    REFERENCE INFORMATION  
 .000    .000    -18.000    55.000    SREF    4.4119    SQ.FT.  
 10.000    .000    -18.000    55.000    LREF    19.2288    INCHES  
 .000    .000    .000    .000    BREF    37.9559    INCHES  
 .000    .000    .000    .000    XREF    43.9574    INCHES  
 .000    .000    .000    .000    YREF    .0000    INCHES  
 .000    .000    .000    .000    ZREF    16.2000    INCHES  
 .000    .000    .000    .000    SCALE    .0405    SCALE

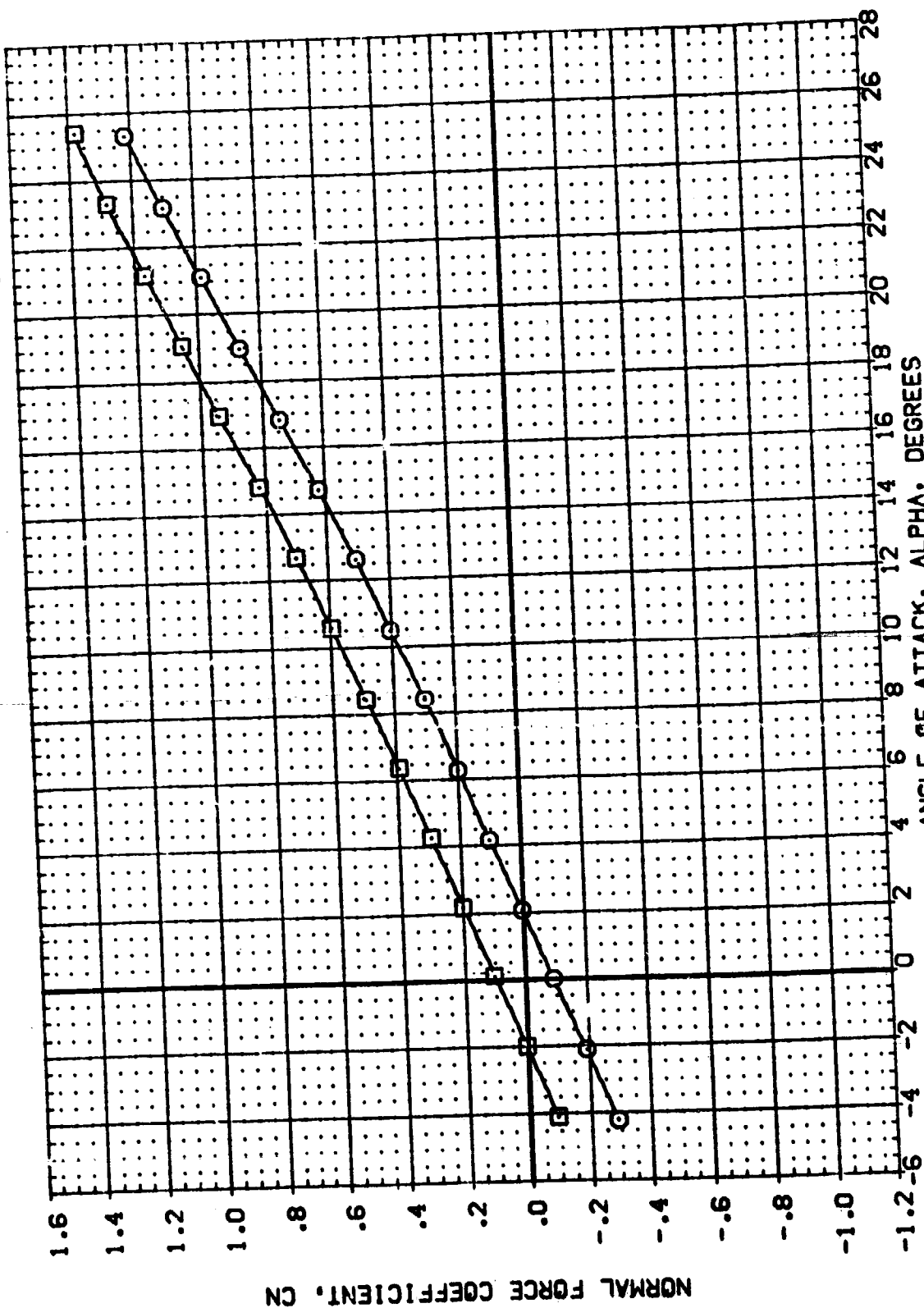


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 817C7 H4M4F5 V107E23V7R6X9  
 (IDP18) 817C7 H4M4F5 V107E23V7R6X9  
 (IDP137)

ELEVON AIRLON BOFLAP SPOBRK  
 .000 .000 55.000  
 10.000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XBRP 43.5974 INCHES  
 YBRP 16.0000 INCHES  
 ZBRP 16.2000 INCHES  
 SCALE .0405

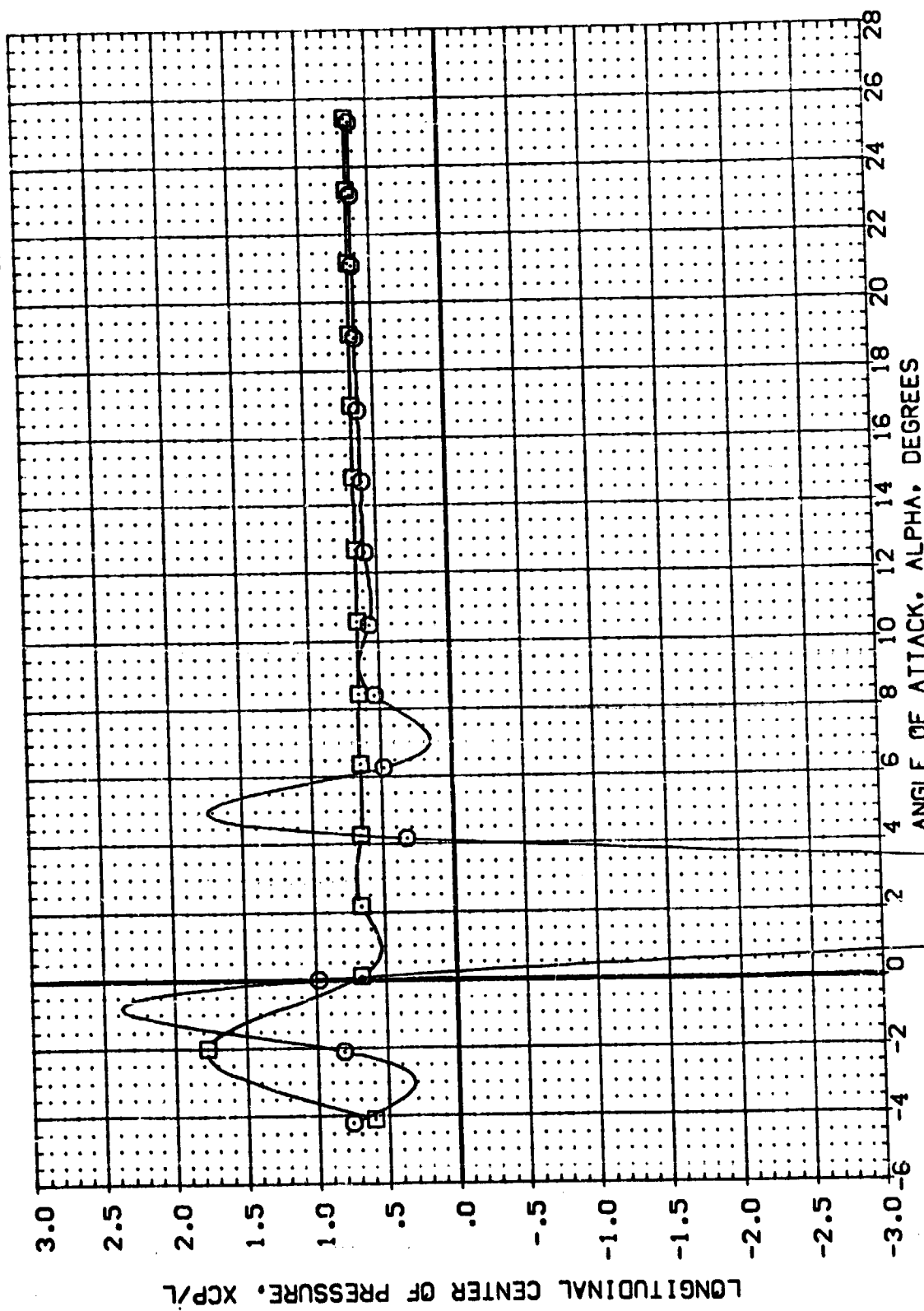


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(M)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (DP118) 0A21 817C7 H4M4F5 V107E23V7R6X9  
 (DP137) 0A21 817C7 H4M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 10.000 .000 -18.000 95.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XHREF 43.5974 INCHES  
 YHREF .0000 INCHES  
 ZHREF 16.2000 INCHES  
 SCALE .0405 SCALE

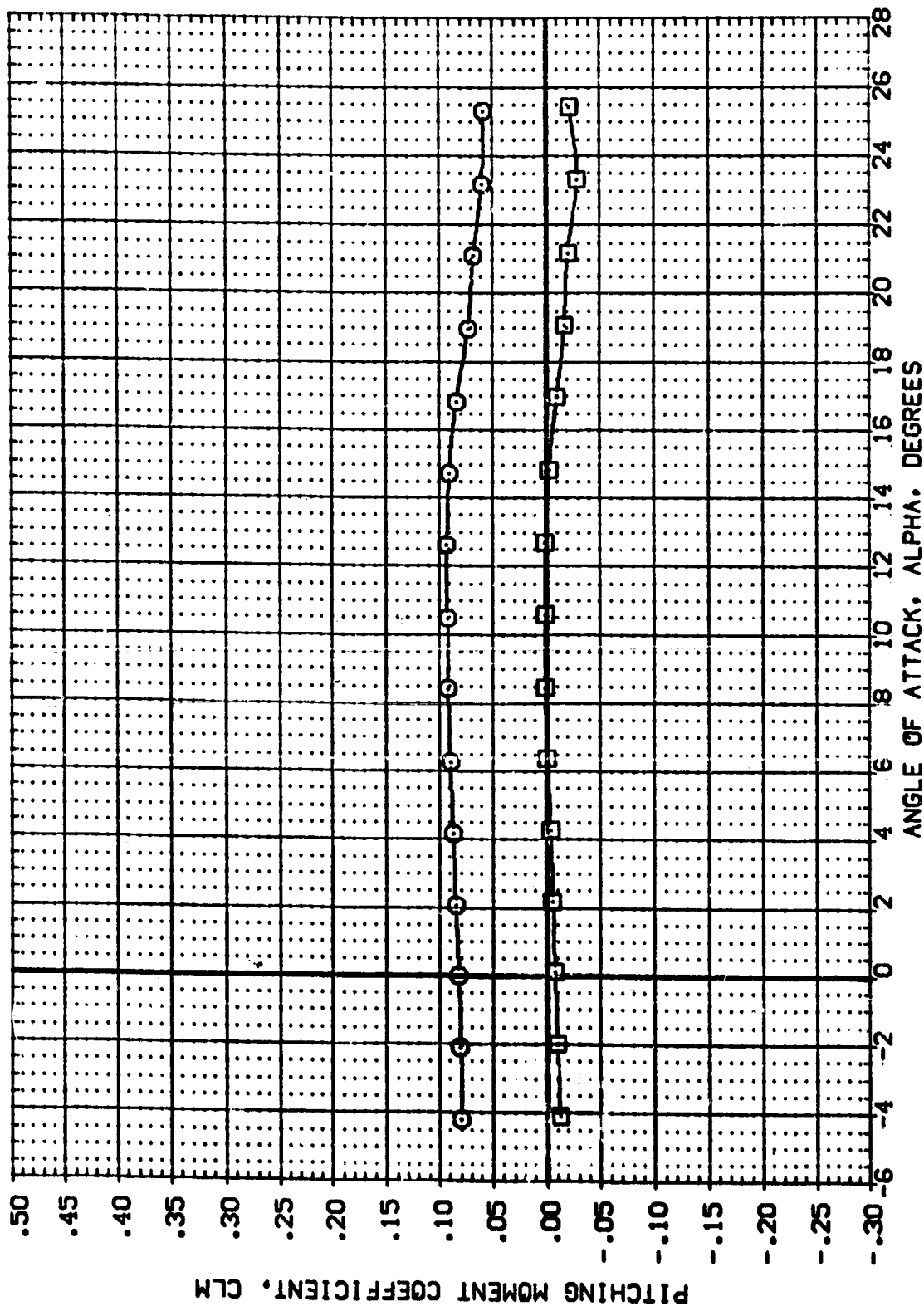


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (00P137)    O    0A21    B17C7 H4M4F5    V107E23/7R6X9

MAXELE    DELELE    BDFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2259    INCHES  
 BREF    37.9359    INCHES  
 XPRP    43.5974    INCHES  
 YPRP    16.0000    INCHES  
 ZPRP    16.2000    INCHES  
 SCALE    .0405    INCHES

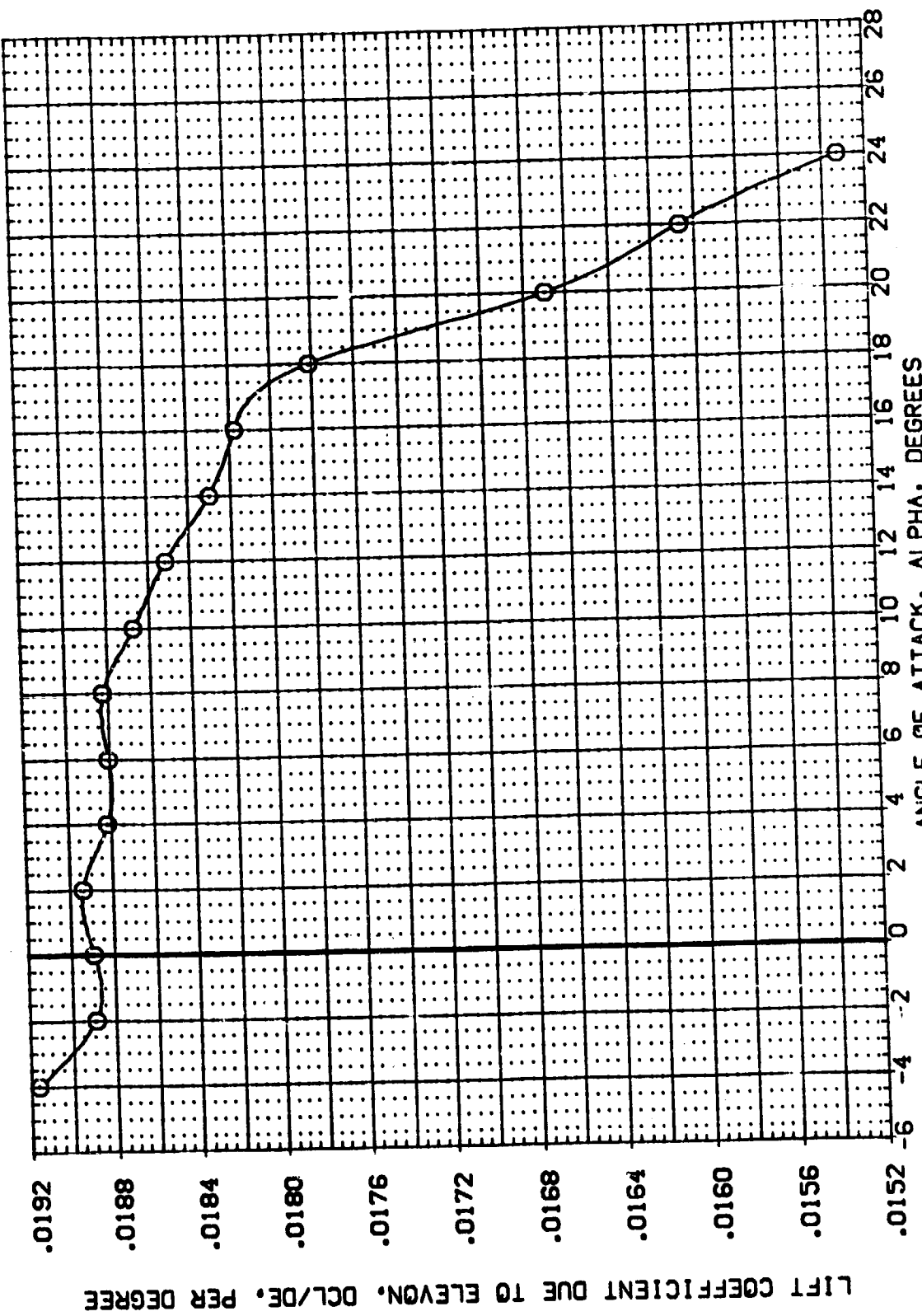


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL: 0 6A21 817C7 H4M4F5 V107E23V7R8D9  
 (00P137)

MAXELE 10.000 DELELE 10.000 SPOBRK 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 SO.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF 0.0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

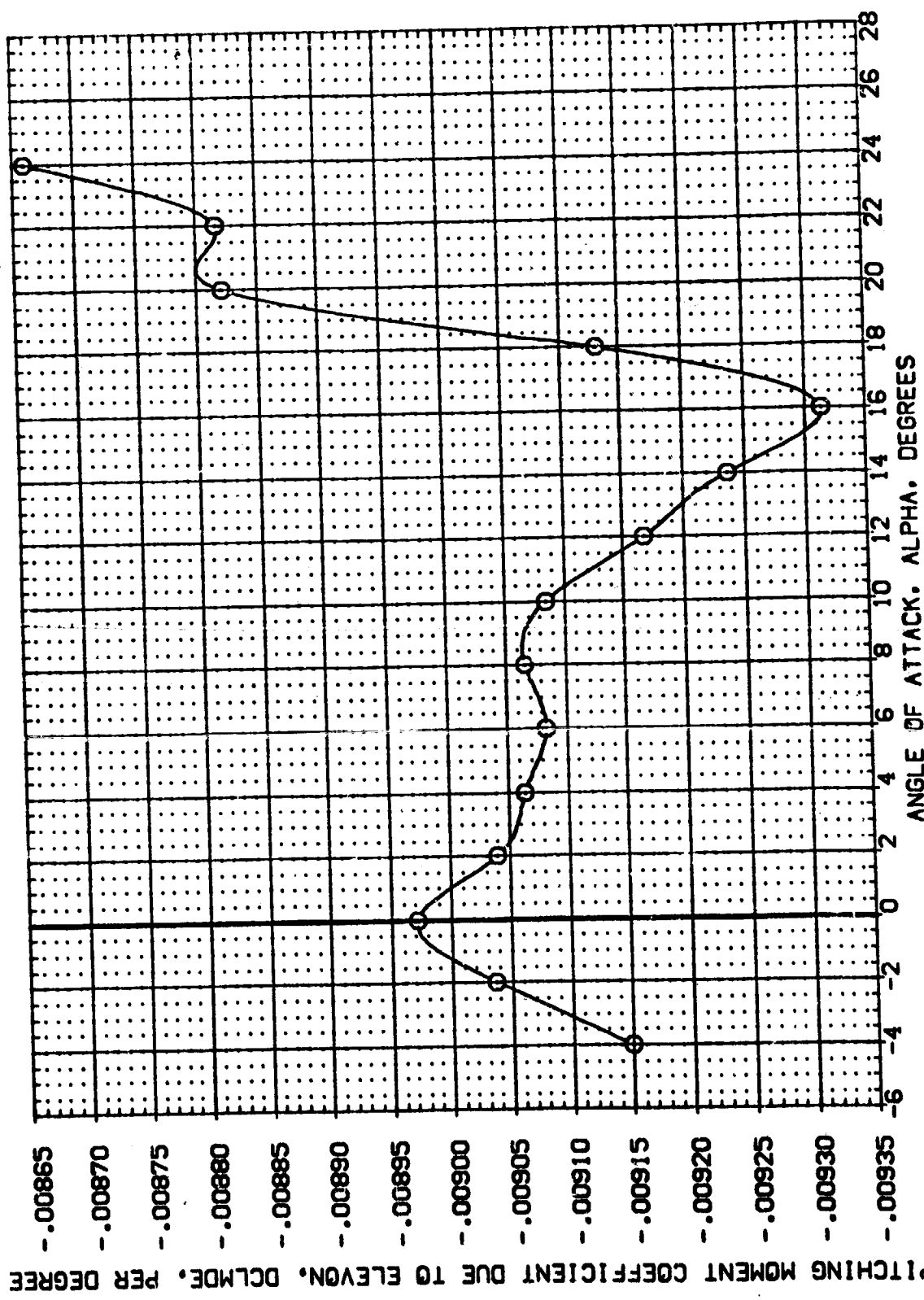


FIGURE 15 ELEVON EFFECTIVENESS WITH H4 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(10P119)	8	0A21	B17C7 H4M4F5	SREF	4.4119 SQ.FT.
(10P138)	8	0A21	B17C7 H4M4F5	LREF	19.2289 INCHES
				BREF	37.9359 INCHES
				YMRP	43.5974 INCHES
				ZMRP	15.2000 INCHES
				SCALE	.0405 INCHES

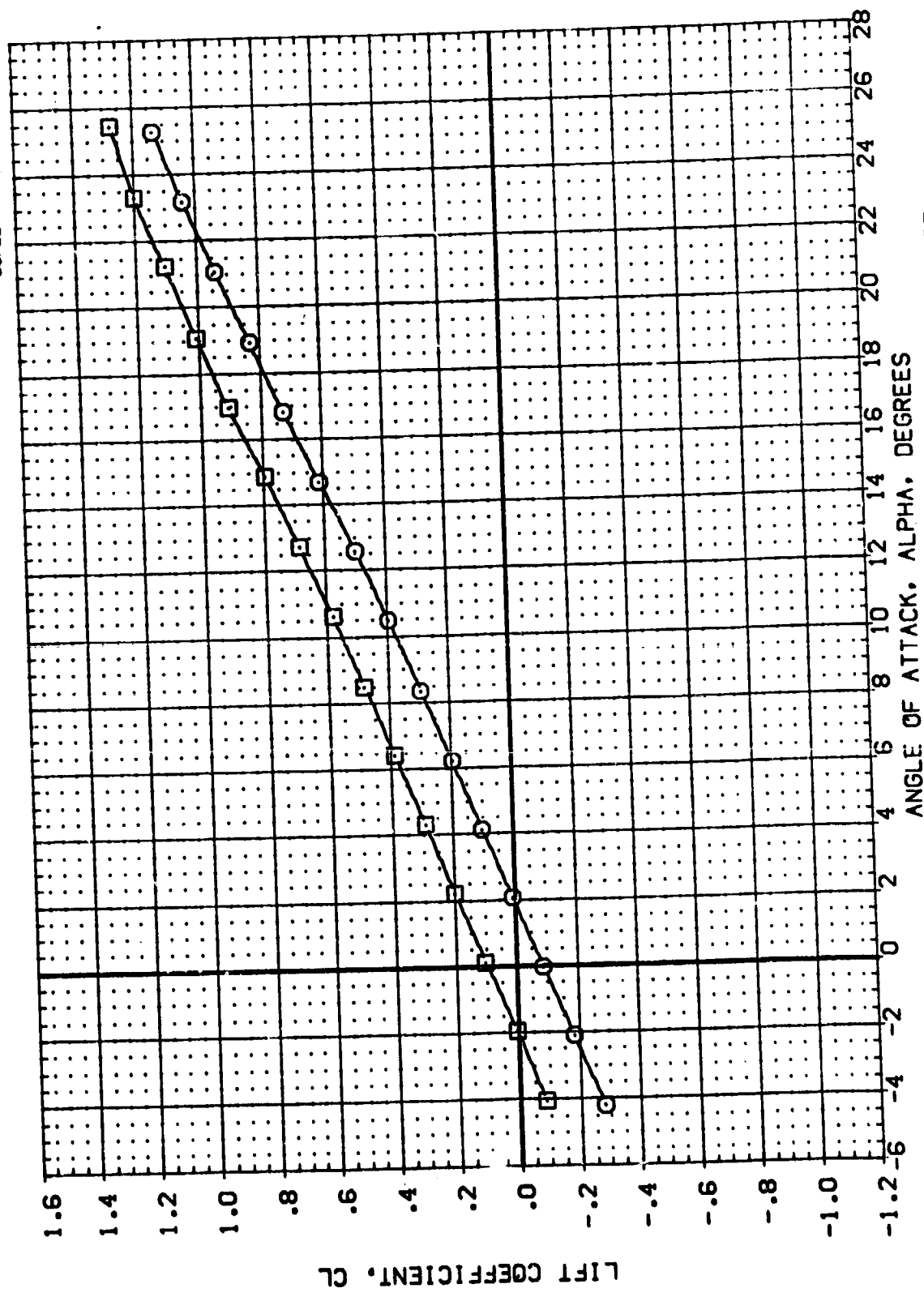


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP119) 8 0A21 817C7 H4H4FS V107E23V7R6X9  
 (IDP138) 8 0A21 817C7 H4H4FS V107E23V7R6X9

ELEVON AIRFOIL BOFLAP SPDRBK  
 .000 .000 -18.000 55.000  
 10.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT. INCHES  
 LREF 19.2299 INCHES  
 BREF 37.9559 INCHES  
 XPRP 43.5574 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

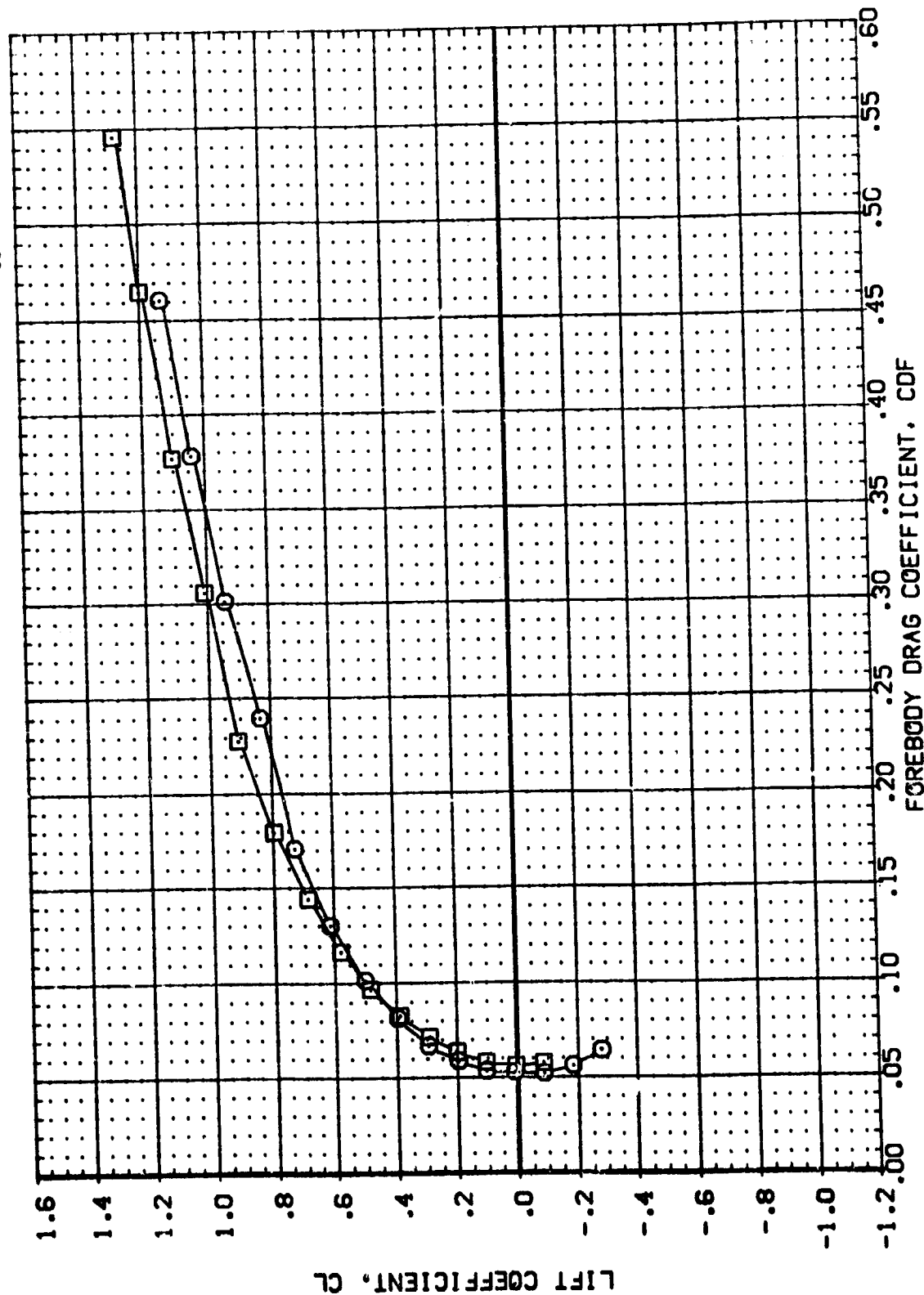


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP119) 0A21 B17C7 H4M4FS V107E23V7R6X9  
 (IDP138) 0A21 B17C7 H4M4FS V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

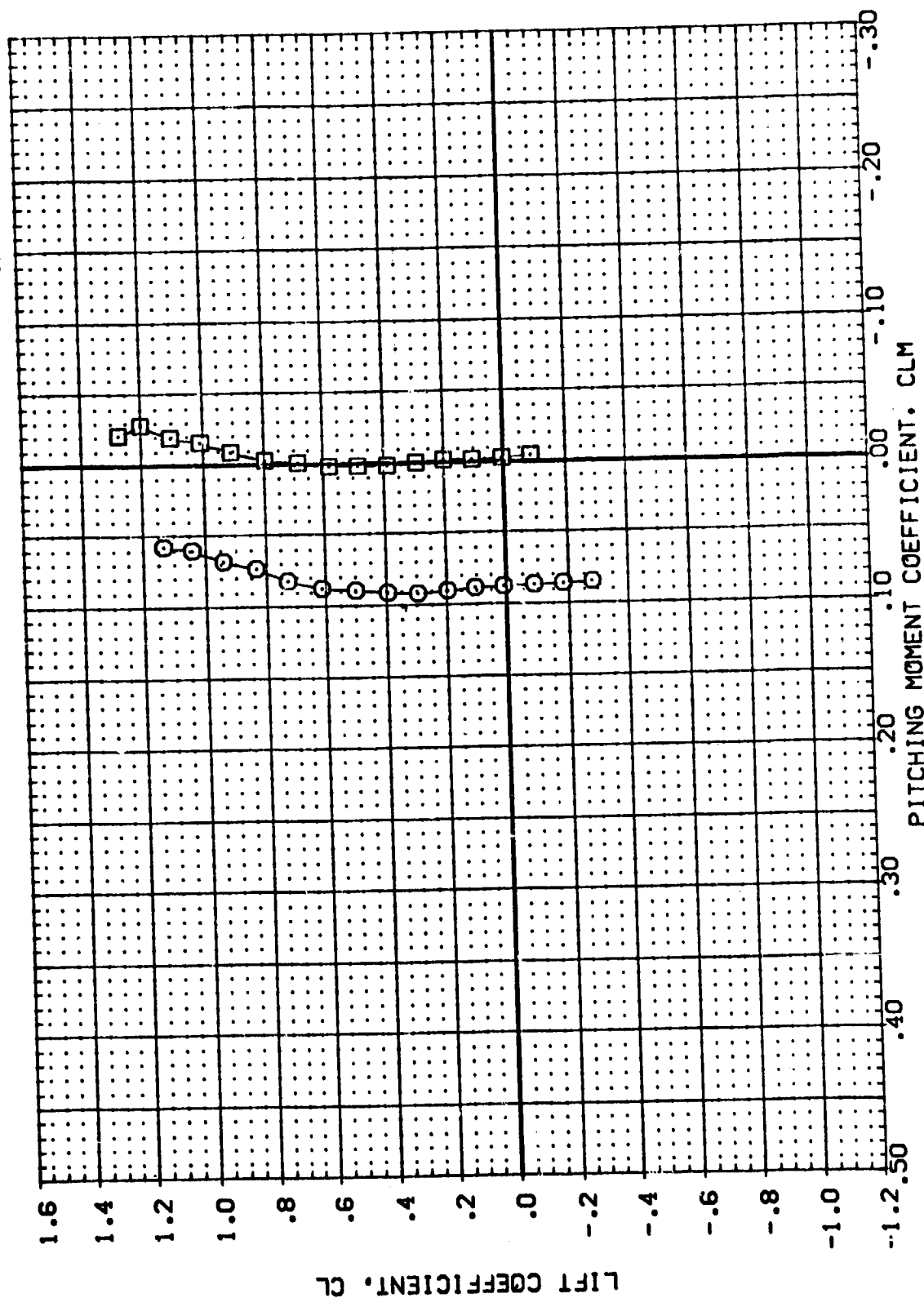


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 0A21 817C7 H4M4F5 V107E23V7R6X9  
 ([DP119]) 0A21 817C7 H4M4F5 V107E23V7R6X9  
 ([DP138])

ELEVON AILRON BOFLAP SPDBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.419 50.000  
 LREF 19.2299 100.000  
 BREF 37.9359 100.000  
 XMRP 43.5974 100.000  
 YMRP .0000 100.000  
 ZMRP 16.2000 100.000  
 SCALE .0405

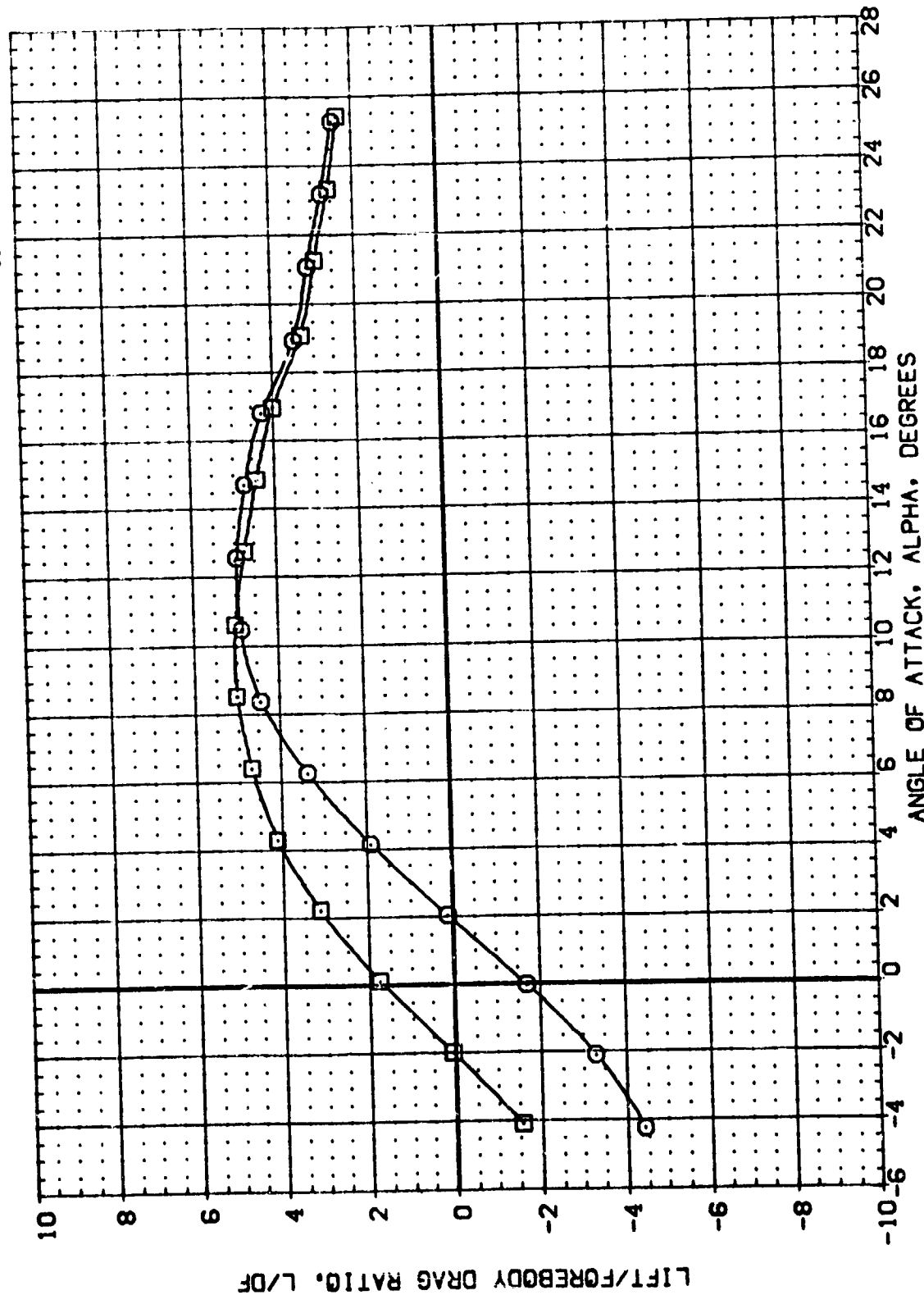


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(DP119)	QAZ1	817C7 H4M4F5	V107E23V7R6X9	SREF	4.4119
(DP138)	QAZ1	817C7 H4M4F5	V107E23V7R6X9	LREF	19.2299
				BREF	37.9359
				YMRP	43.5974
				ZMRP	.0000
				SCALE	16.2000
					.0405

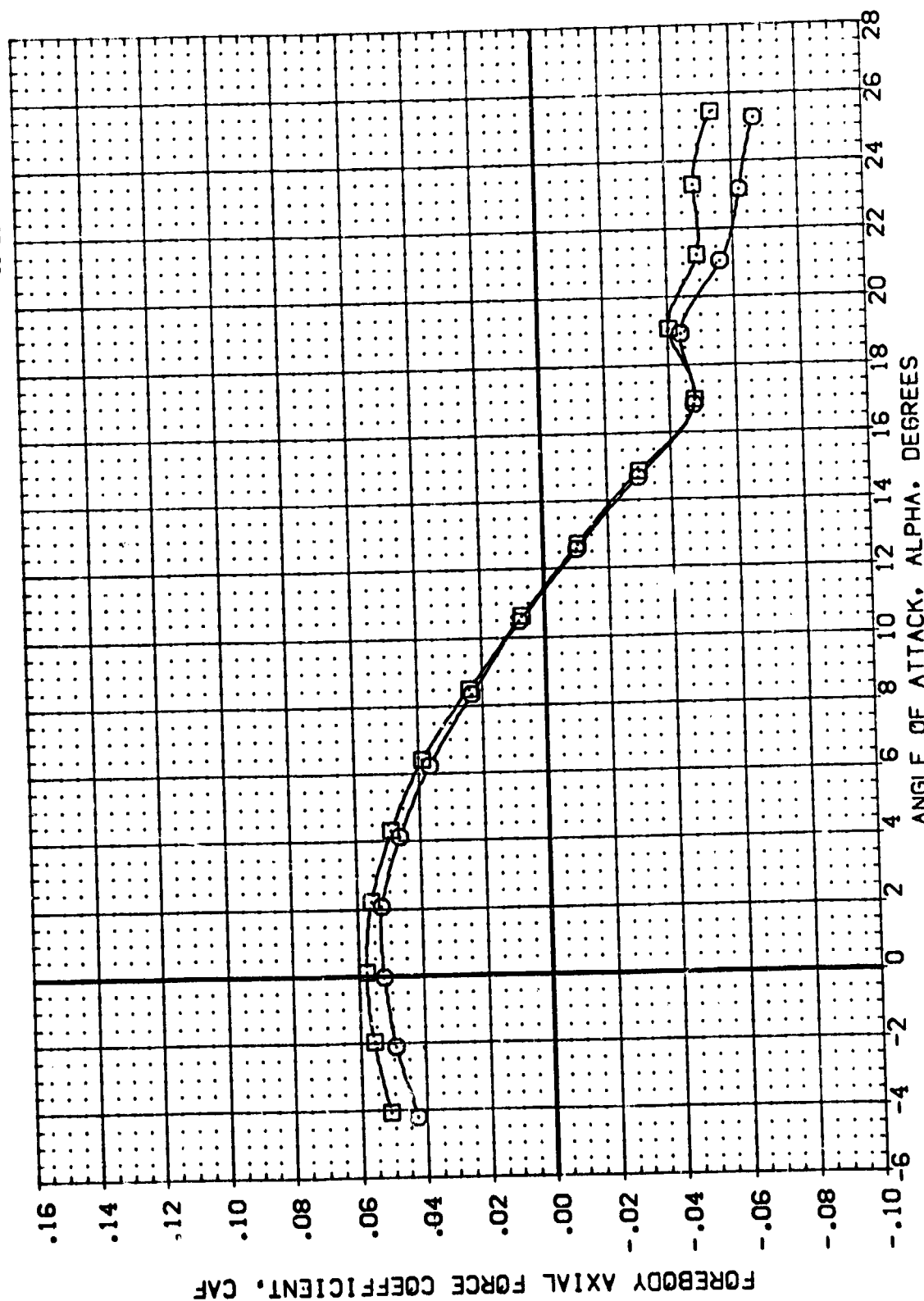


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP19)	0A21	817C7 H4M4F5	V107E23V7R6X9	SREF	4.4119 SQ.FT.
(IDP38)	0A21	817C7 H4M4F5	V107E23V7R6X9	LREF	19.2299 INCHES
				BREF	37.9359 INCHES
				XMRP	43.5971 INCHES
				YMRP	16.2000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0455

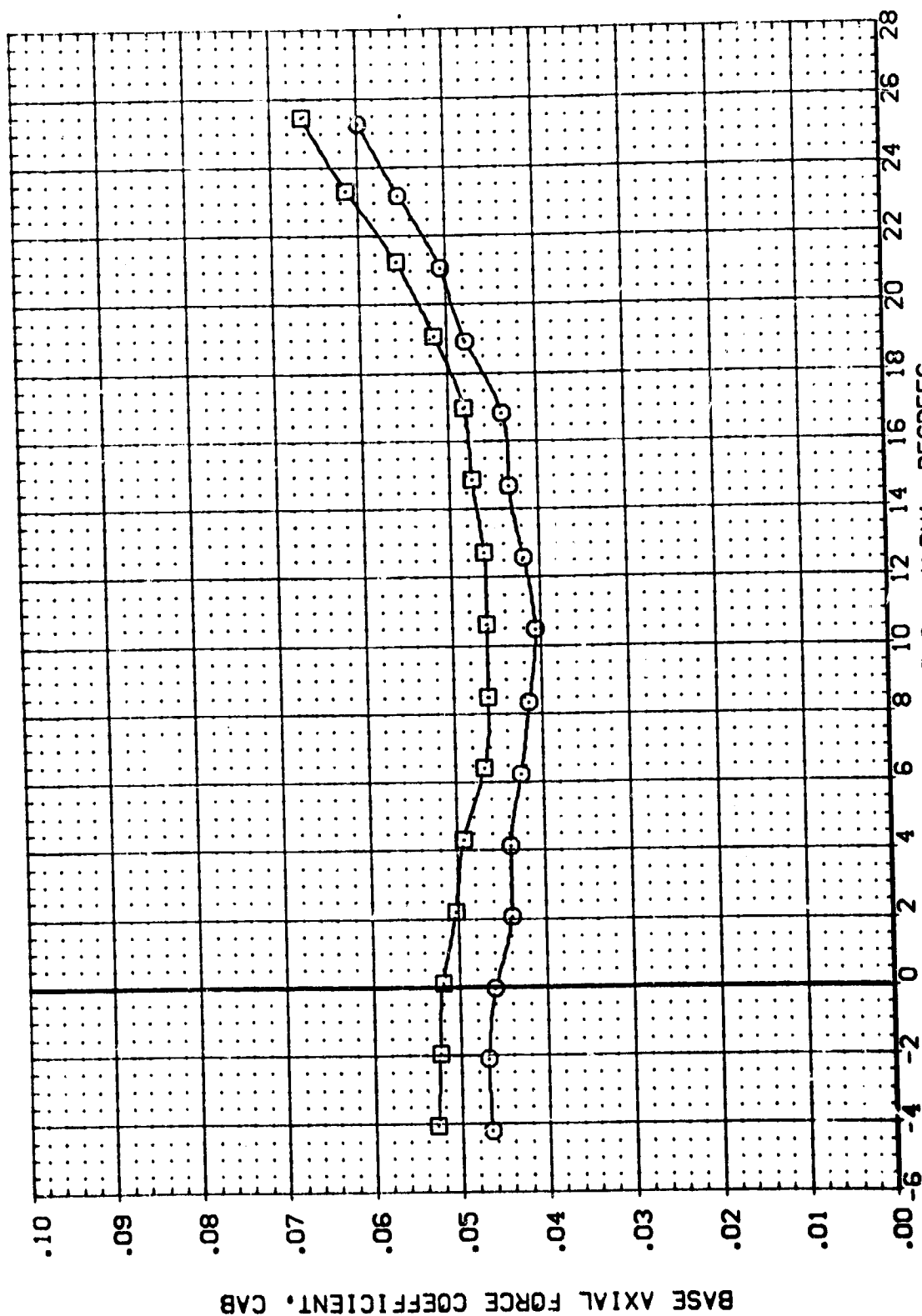


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A) EACH = .26

DATA SET SYMBOL - CONFIGURATION DESCRIPTION  
 (IDP119) 0A21 817C7 H4M4FS V107E23V76AS  
 (IDP138) 0A21 817C7 H4M4FS V107E23V76AS

ELEVON AILRON BDFLAP SPOBRK  
 10.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 52.000  
 LREF 19.2259 100.000  
 BREF 37.9319 100.000  
 YPRP 43.5974 100.000  
 ZPRP 0.000 100.000  
 SCALE 16.2000 100.000  
 SCALE .0405 100.000

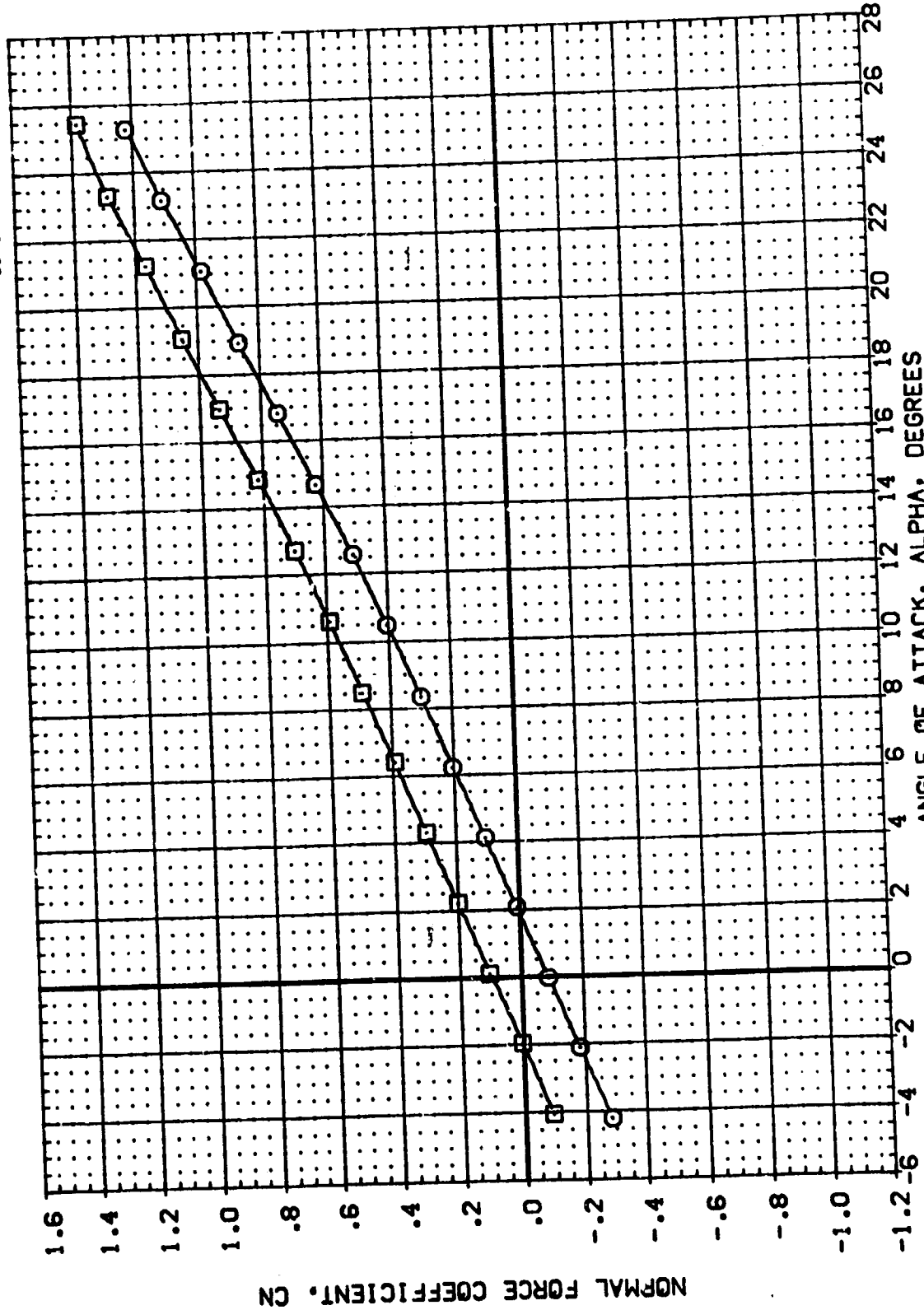


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(MACH = .26



DATA SET SYMBOL    CONFIGURATION DESCRIPTION    REFERENCE INFORMATION

(IDP119)	0A21    817C7 H4M4F5    V107E23/7R6X5	SREF    4.4119    50.FT.
(IDP138)	0A21    817C7 H4M4F5    V107E23/7R6X5	LREF    19.2259    INCHES
		BREF    37.9359    INCHES
		XPRP    43.5974    INCHES
		YPRP    .0000    INCHES
		ZPRP    16.2000    INCHES
		SCALE    .0405    INCHES

ELEVON    AILRON    BOFLAP    SPOBRK

.000	.000	-18.000	55.000
10.000	.000	-18.000	55.000

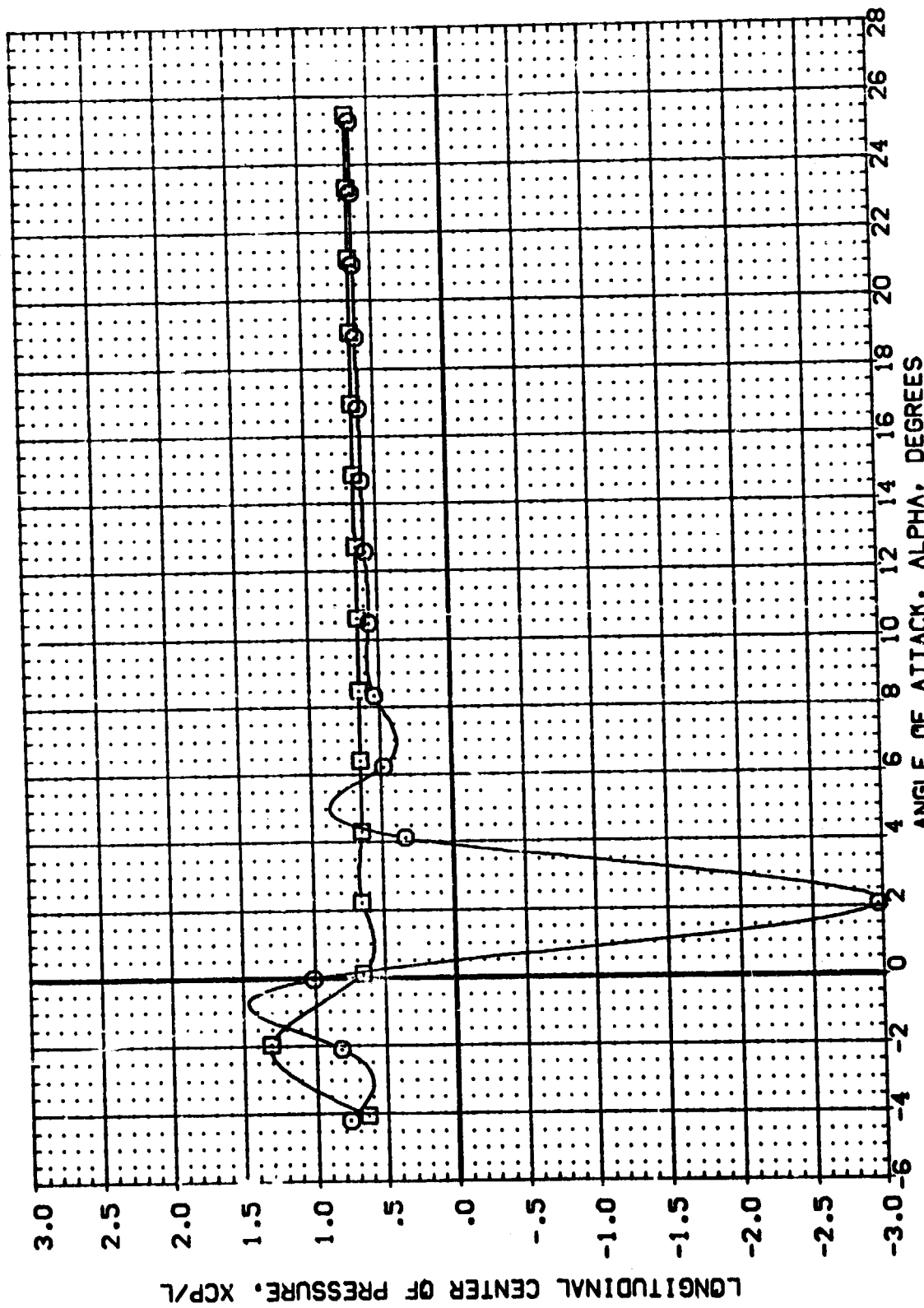


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

REFERENCE INFORMATION	
SREF	4.4119 SQ.FT.
LREF	19.2299 INCHES
BREF	37.9259 INCHES
XMRP	43.5974 INCHES
YMRP	0000 INCHES
ZMRP	16.2000 INCHES
SCALE	.0405 SCALE

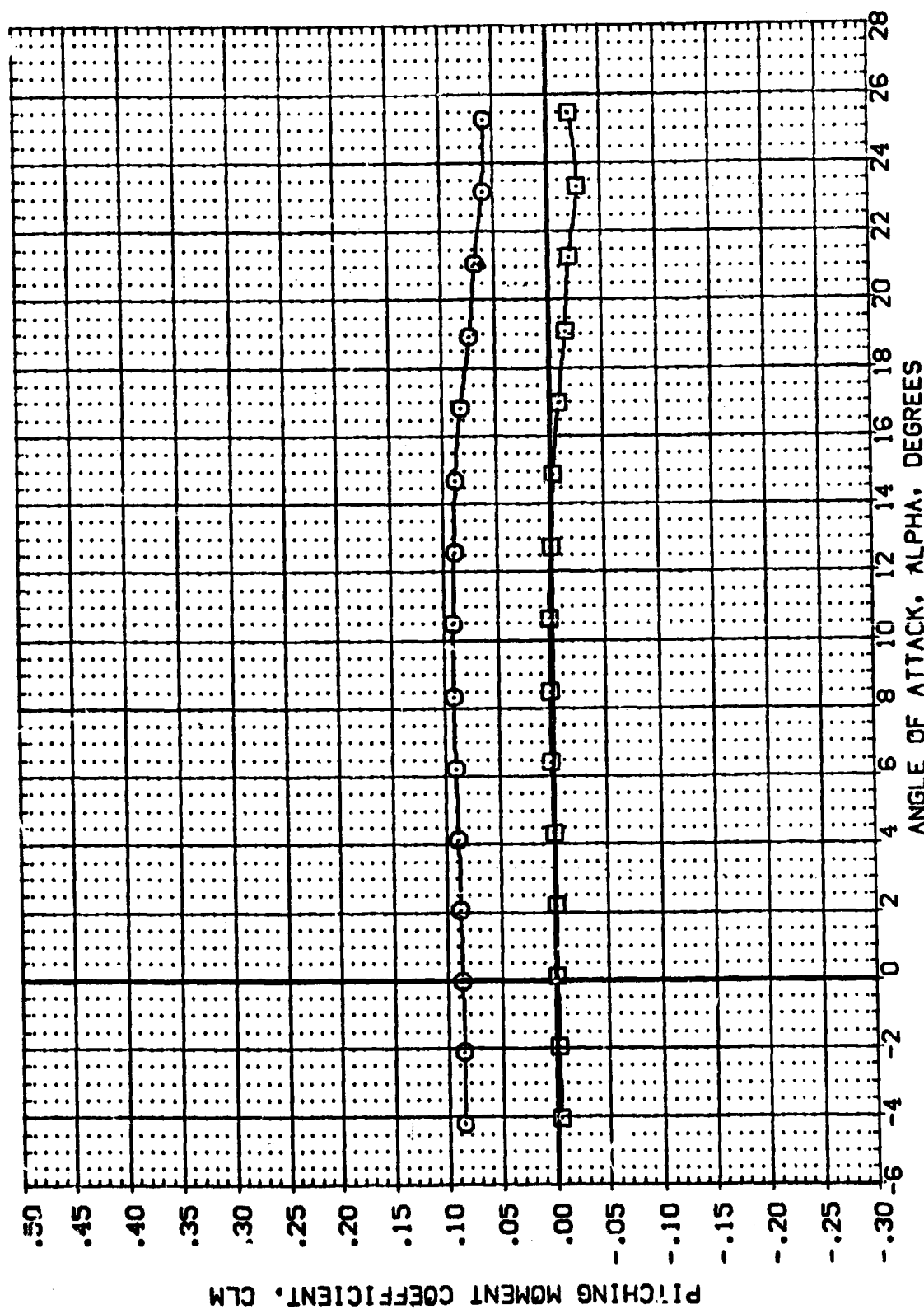


FIGURE 16. ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

**[A]MACH = .26**

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(00P138) O 0A21 B17C7 H4M4FS V107E23V7R6S19

MAXELE 10.000 DELELE 10.000 80FLAP 55.000  
SPOBRK 55.000  
REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2288 INCHES  
BREF 37.5559 INCHES  
XREF 43.5574 INCHES  
YREF .0000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

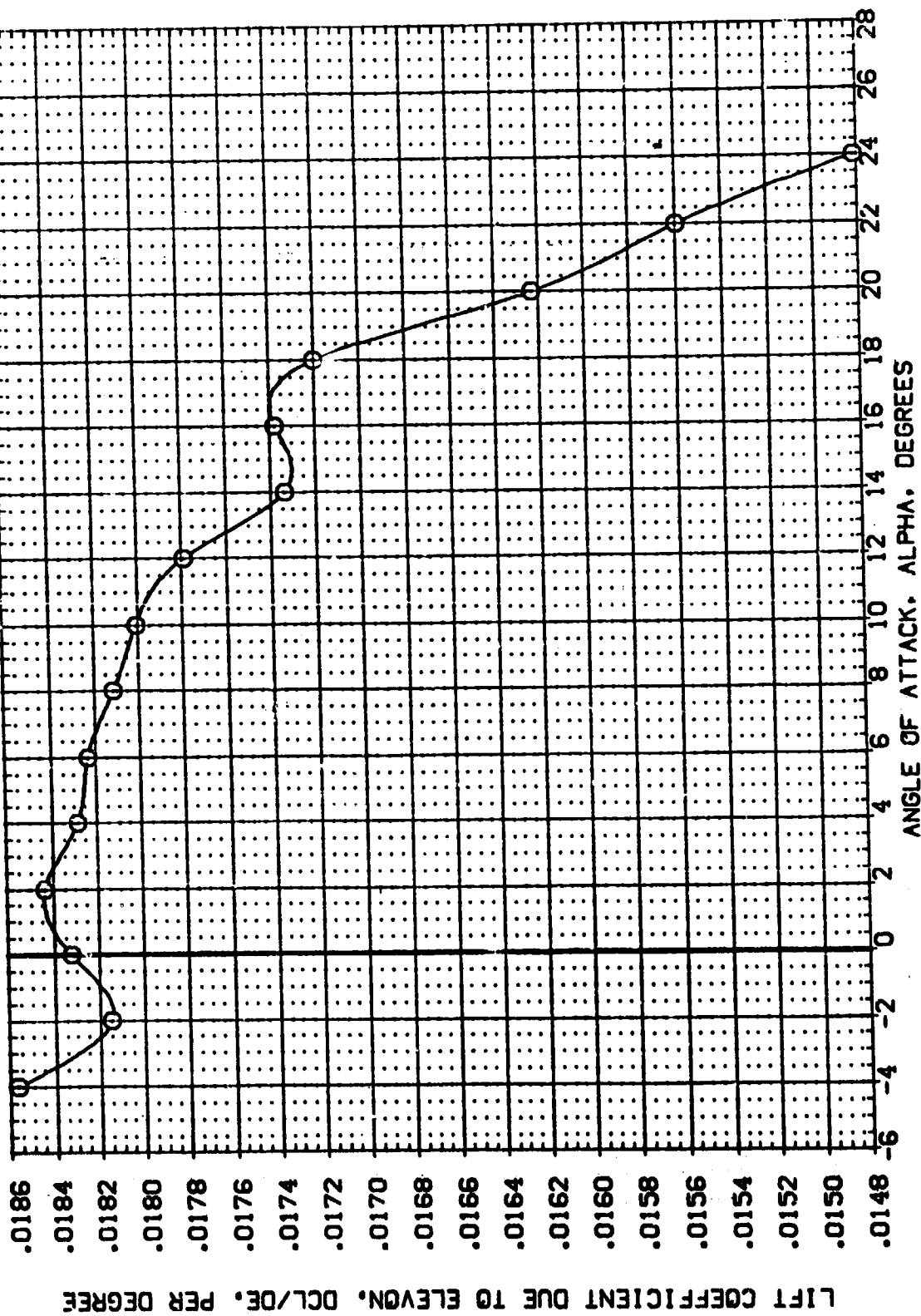


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(00P138) O 0A21 817C7 HMMPS V107E23V76X19

MODEL DELELE BOFLAP SPDBRK  
10.000 10.000 -18.000 55.000

REFERENCE INFORMATION  
SREF 4.4119 50. FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5574 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0-05

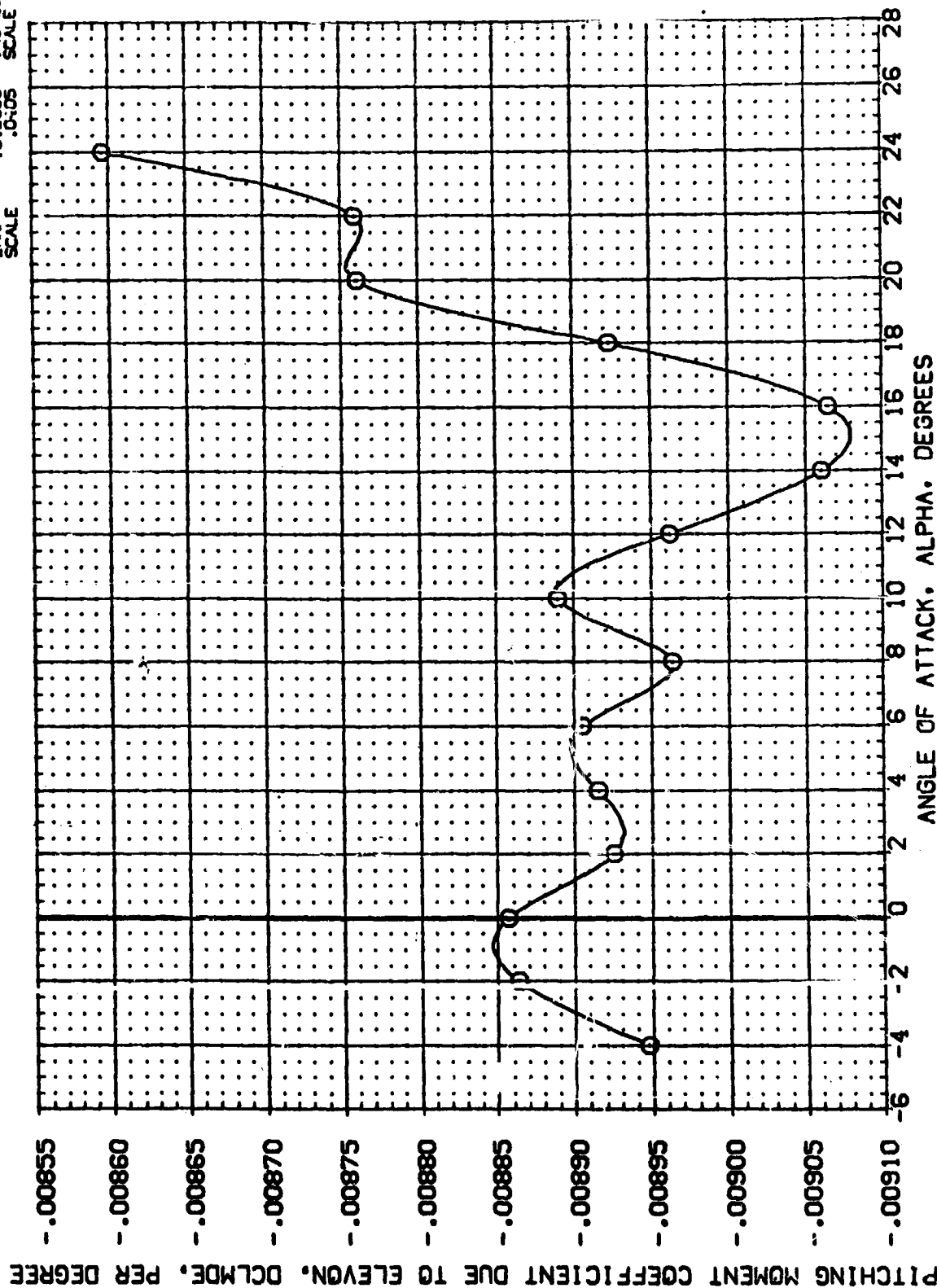


FIGURE 16 ELEVON EFFECTIVENESS WITH H4 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

ELEVON	AIRLON	BDF LAP	SPURIN	REFERENCE IN SCALE	INCHES	SCALE
10.000	.000	.000	\$5.000	4.4119	INCHES	SCALE
	.000	-18.000	\$5.000	19.2299	INCHES	
	.000	-18.000	\$5.000	37.9329	INCHES	
				43.5574	INCHES	
				.0000	INCHES	
				16.2000	INCHES	
				.0405	INCHES	

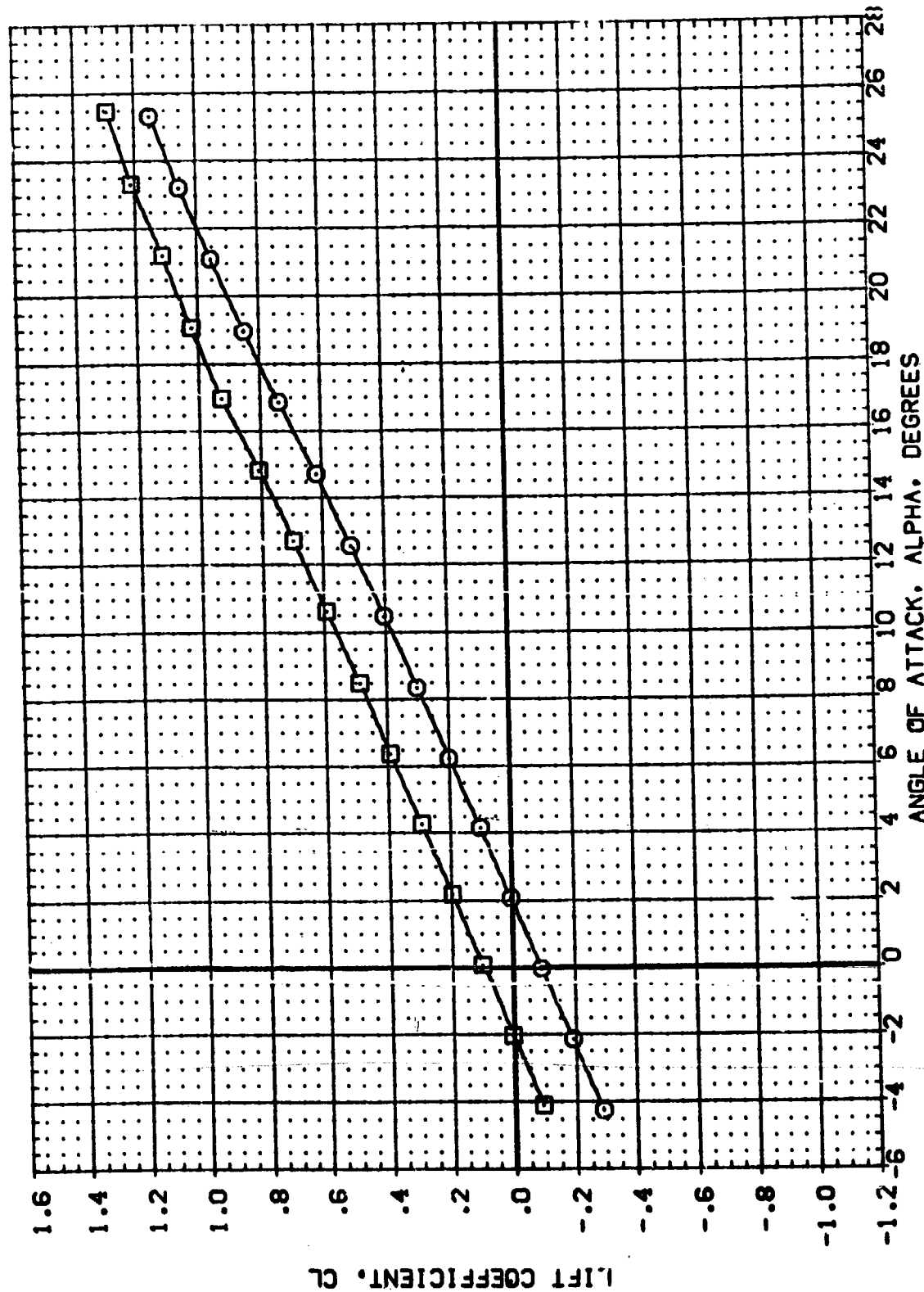


FIGURE 17. EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

**[A]MACH = .26**

DATA SET SYMBOL CONFIGURATION-DESCRIPTION  
 (10P122) □ 0A21 817C7 H5H4F5 V107E23V7R6X9  
 (10P136) □ 0A21 817C7 H5H4F5 V107E23V7R6X9

ELEVON AILRON BDFLAP SPOBRK  
 10.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5874 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

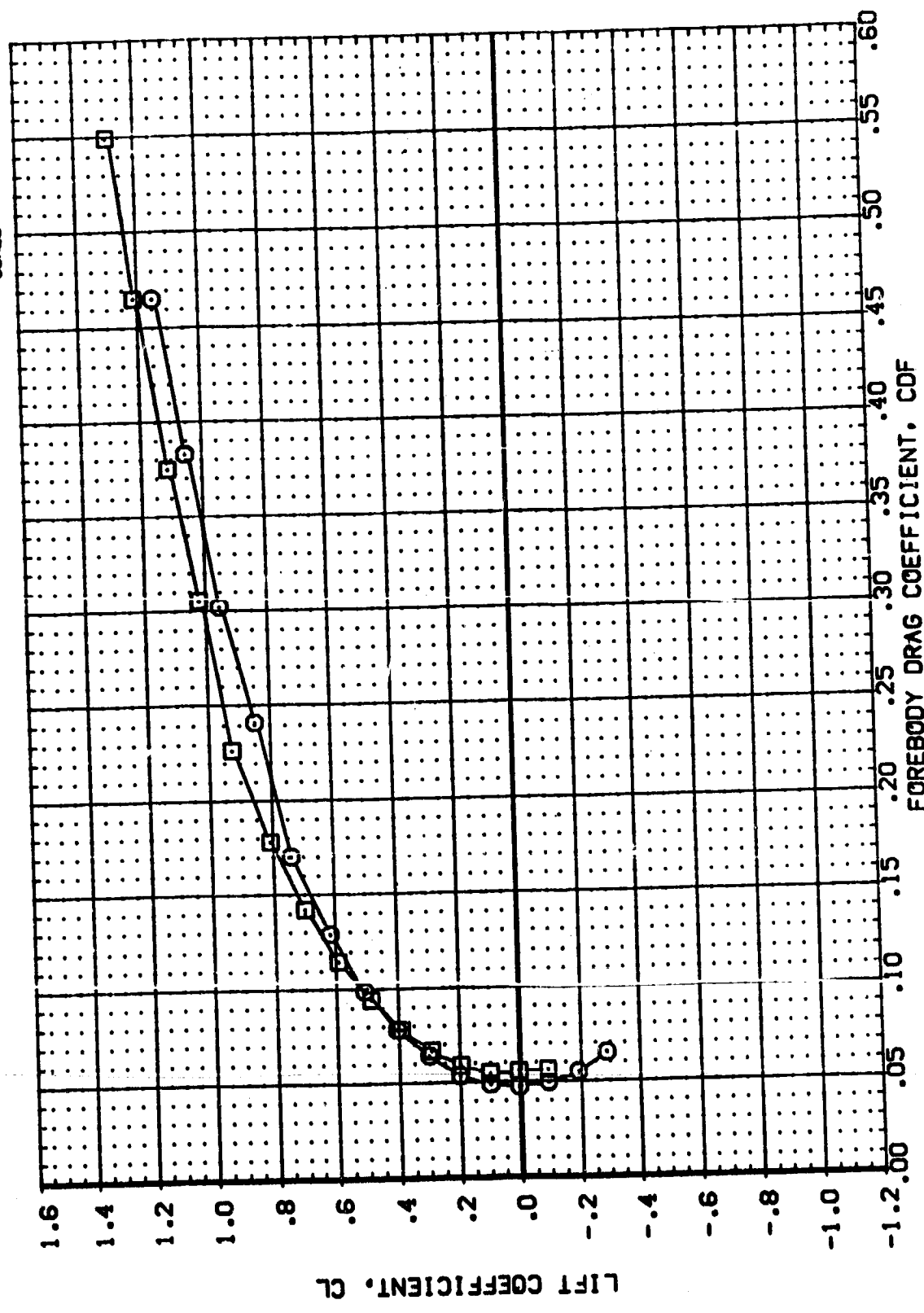


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AIRLON	BD/FLAP	SPDRX	REFERENCE INFORMATION
(10P122)	0A21 817C7 H5M4F5 V107EZ3V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(10P139)	0A21 817C7 H5M4F5 V107EZ3V7R6X9	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						XREF 43.5974 INCHES
						YREF 16.0000 INCHES
						ZREF 16.2033 INCHES
						SCALE .0405

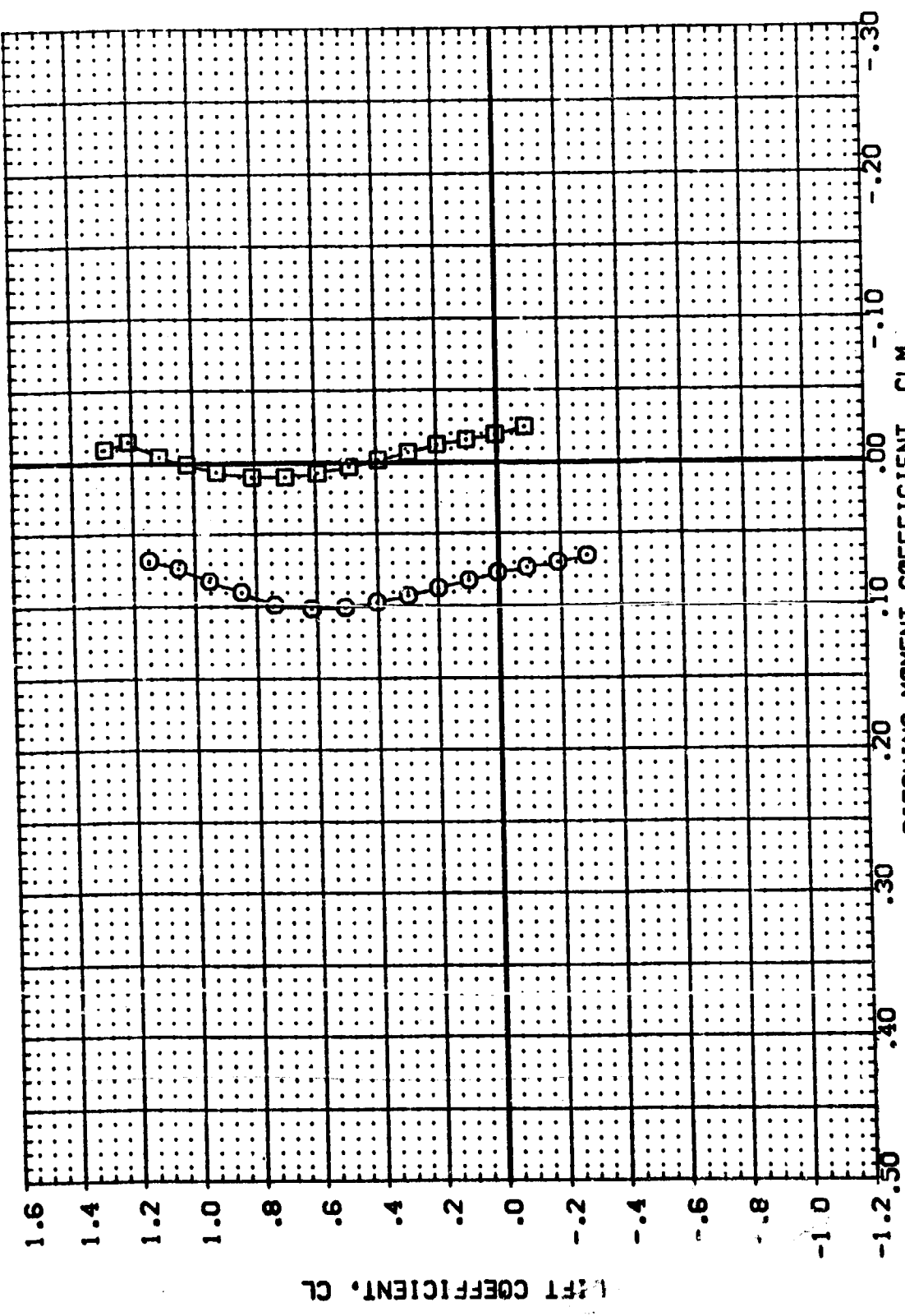


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 {DP122} 0A21 817C7 5M4F5 V107E23V7R6X9  
 {DP135} 0A21 817C7 H3M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.000  
 LREF 19.2299 10.000  
 BREF 37.9359 10.000  
 XMRP 43.5974 10.000  
 YMRP 16.2000 10.000  
 ZMRP 16.2000 10.000  
 SCALE .0405

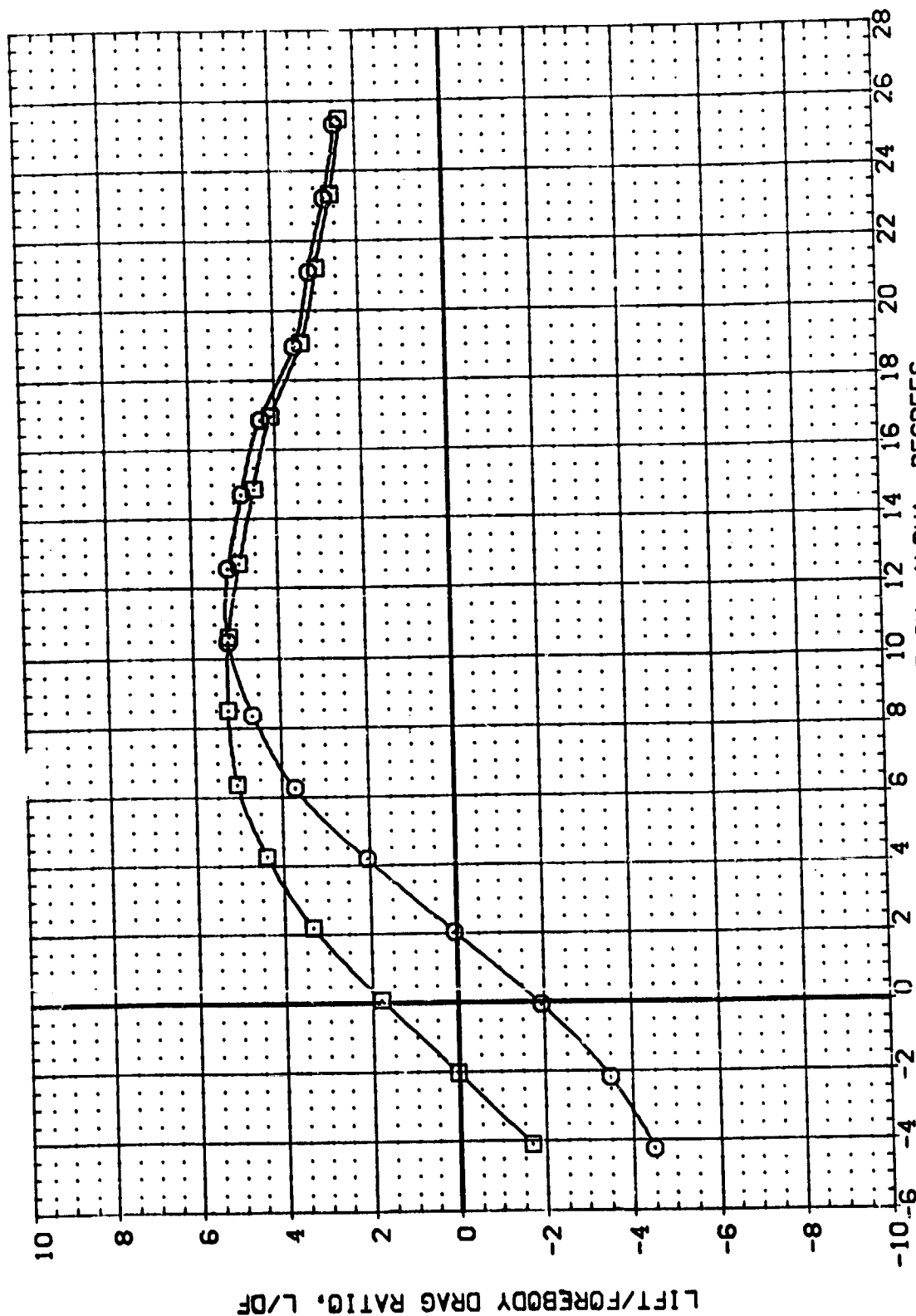


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP122) 0A21 817C7 H5M4FS V107E23V7R6X3  
 (IDP136) 0A21 817C7 H5M4FS V107E23V7R6X3

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 YMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

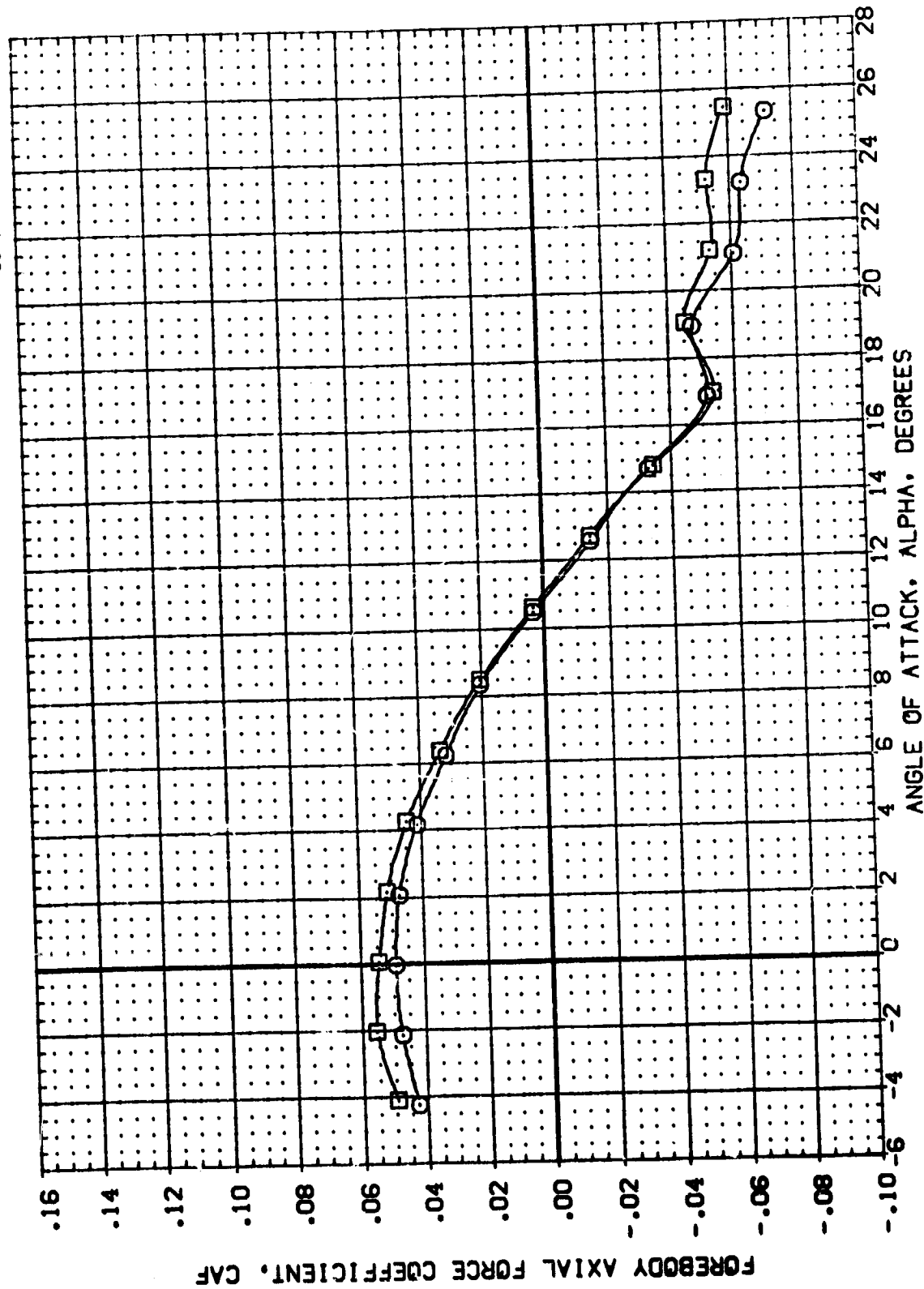


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: 10P133  
 CONFIGURATION DESCRIPTION: 817C7 H5M4F5 V107E23V7R6X9  
 0A21 517C7 H5M4F5 V107E23V7R6X9

ELEVON: 0.000  
 10.000  
 AILRON: 0.000  
 0.000  
 BOFLAP: -18.000  
 -18.000  
 SPOBRK: 55.000  
 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: 0.0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: 0.0405

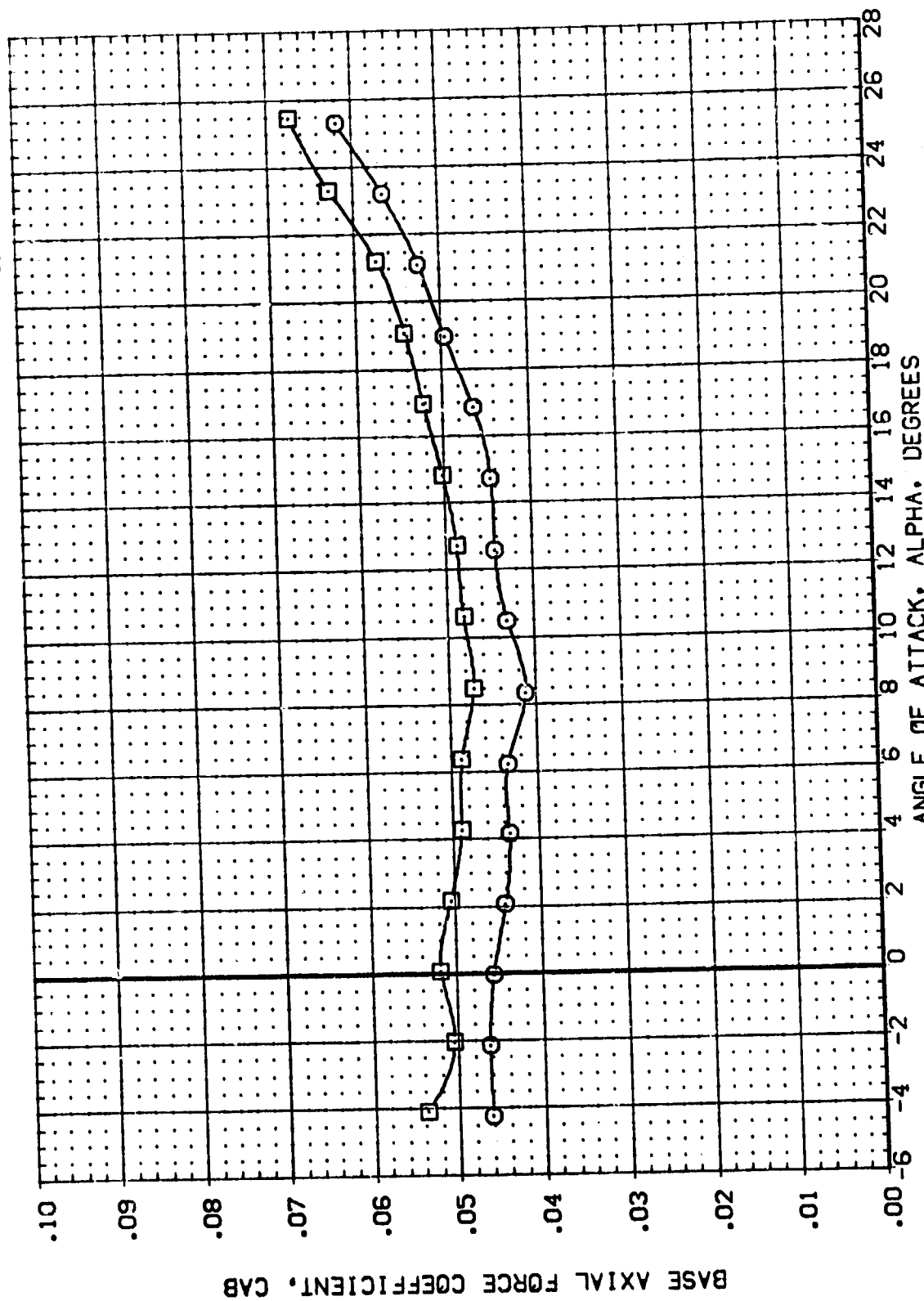


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

DATA SET: SYMBOL CONFIGURATION DESCRIPTION  
 (IDP122) 0A21 B17C7 H5M4F5 V107E23V7R6X9  
 (IDP139) 0A21 B17C7 H5M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRN REFERENCE INFORMATION  
 SREF 4.4119 SC.FT.  
 LREF 19.2289 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 16.2000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

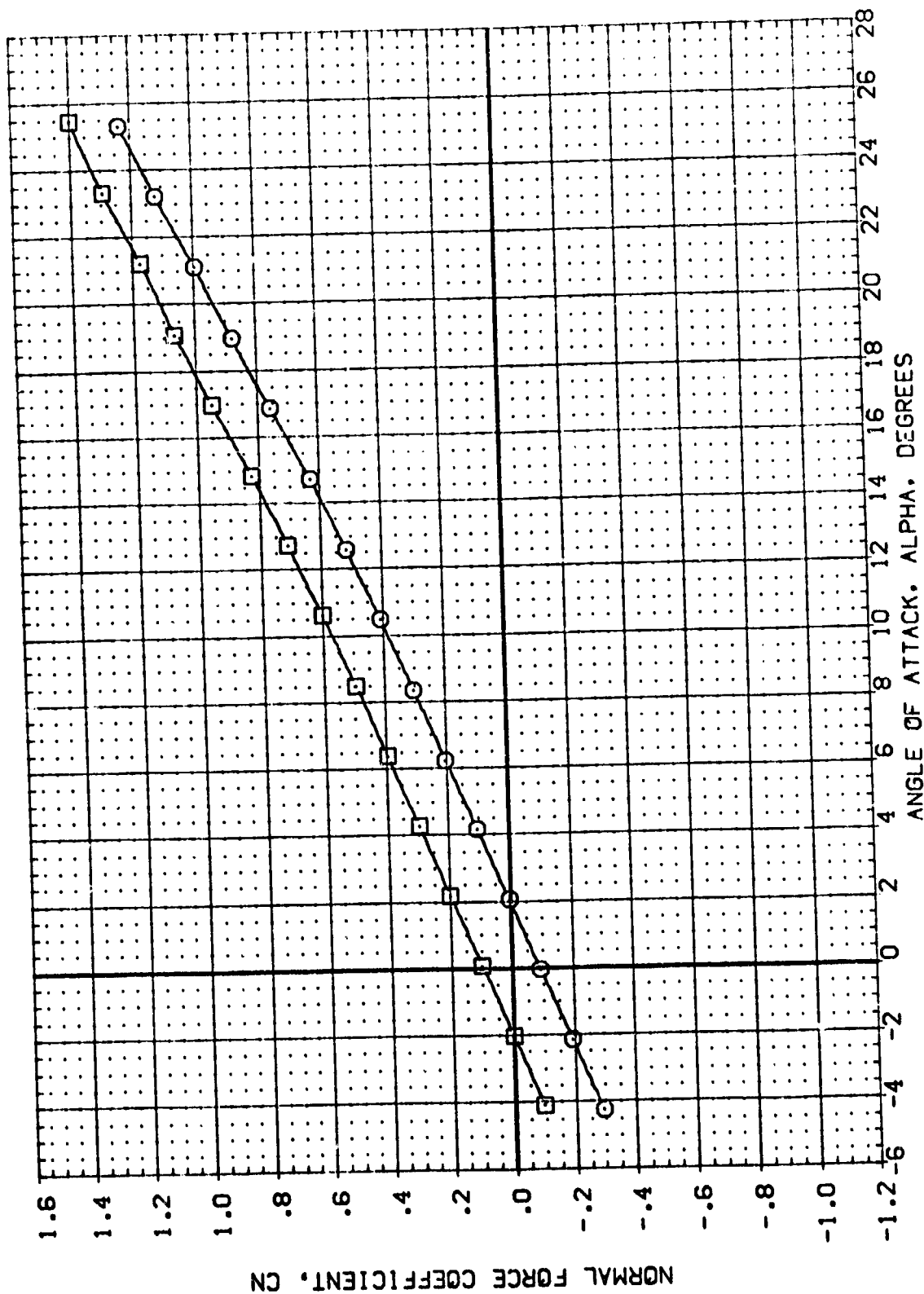


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL  
(1D122) □  
(1D139) □

CONFIGURATION DESCRIPTION

CA2: B17C7 HSM4FS V107E23V7R6X9  
CA2: B17C7 HSM4FS V107E23V7R6X9

ELEVON  
.000  
10.000

AILERON  
.000  
.000

BOFLAP  
-18.000  
-18.000

SFOBRK  
55.000  
55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ. FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.9974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

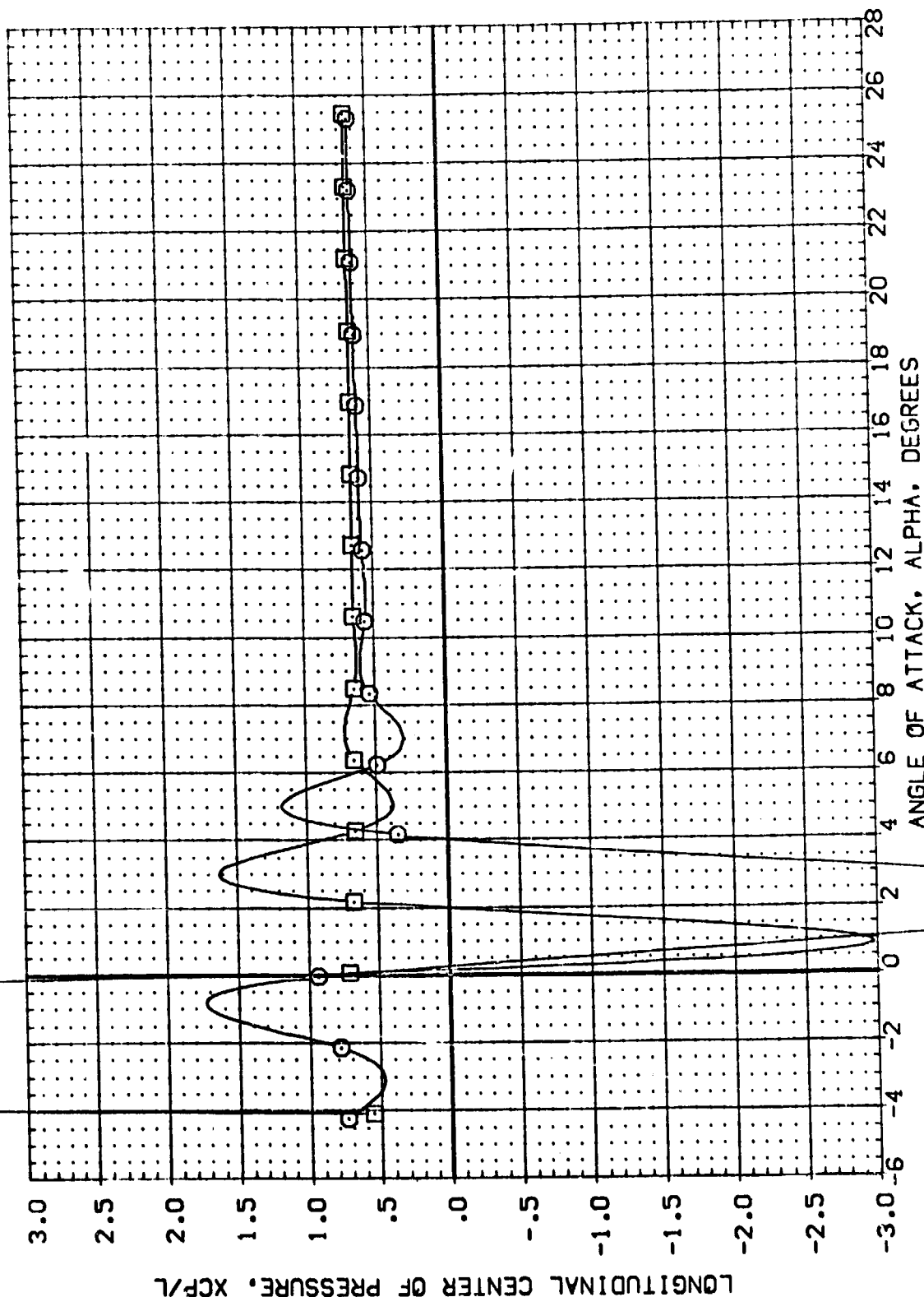


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

TELEVISION		AIR/IRON		BOFLAP		SPOBRK		REFERENCE INFORMATION		SQ.FT.	
10,000	.000	.000	.000	-18,000	-18,000	55,000	SREF	4,4119	INCHES	INCHES	INCHES
						55,000	LREF	19,2299	INCHES	INCHES	INCHES
							BREF	37,9359	INCHES	INCHES	INCHES
							XMRP	43,5974	INCHES	INCHES	INCHES
							YMRP	0.0000	INCHES	INCHES	INCHES
							ZMRP	16,2000	INCHES	INCHES	INCHES
							SCALE	.0400	SCALE	SCALE	SCALE

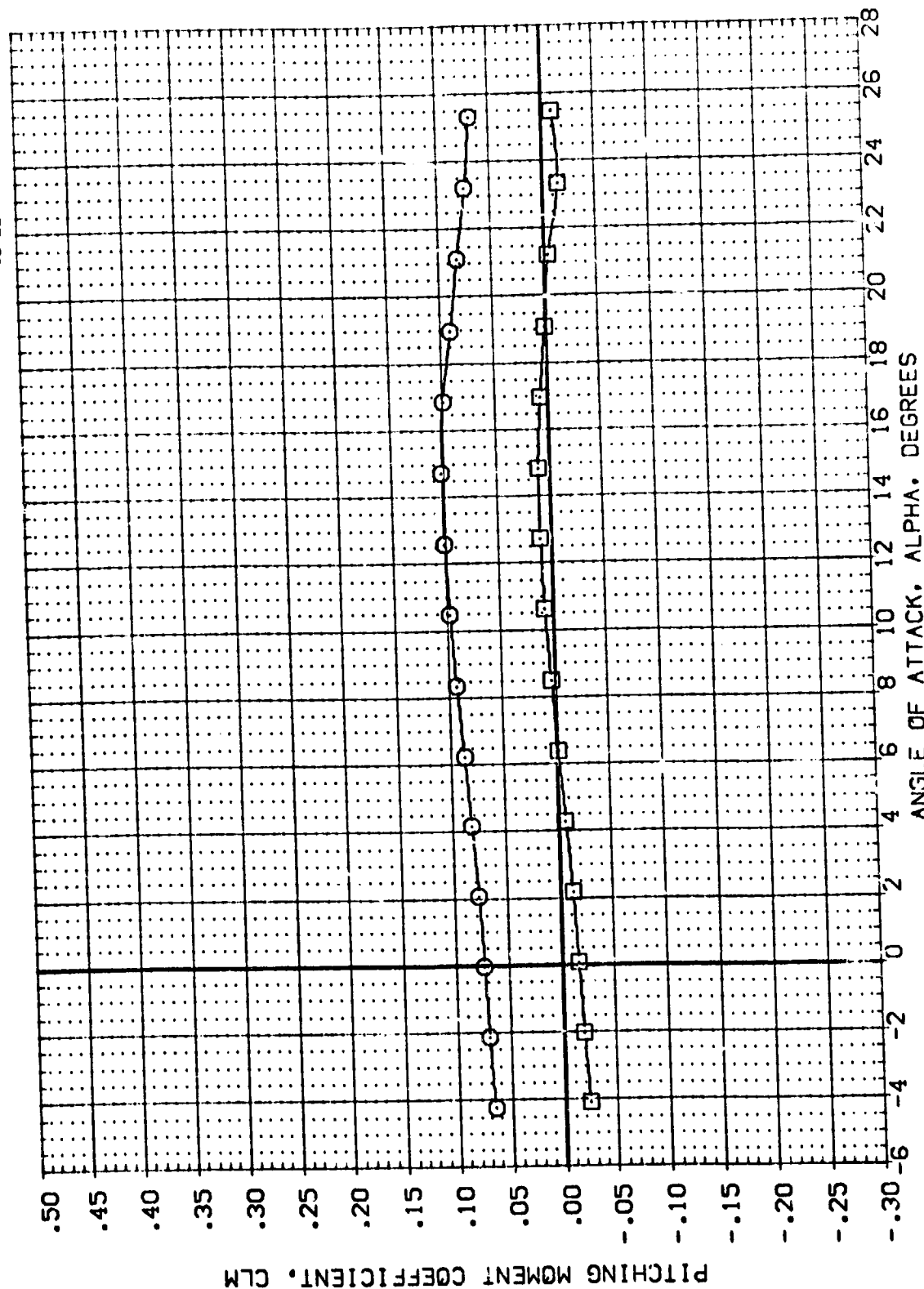


FIGURE 17. EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

$$C_A]_{MACH} = .25$$

DATA SET SYMBOL: 09A21 817C7 H5HAF5 V:07EZ3V76X9  
(00P139)

MAXELE 10.000 DELELE 10.000 BOFLJP 55.000

REFERENCE INFORMATION  
SREF 4.4119 SO.FT.  
LREF 19.2289 INCHES  
BREF 37.9359 INCHES  
XREF 43.5974 INCHES  
YREF 0.0000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

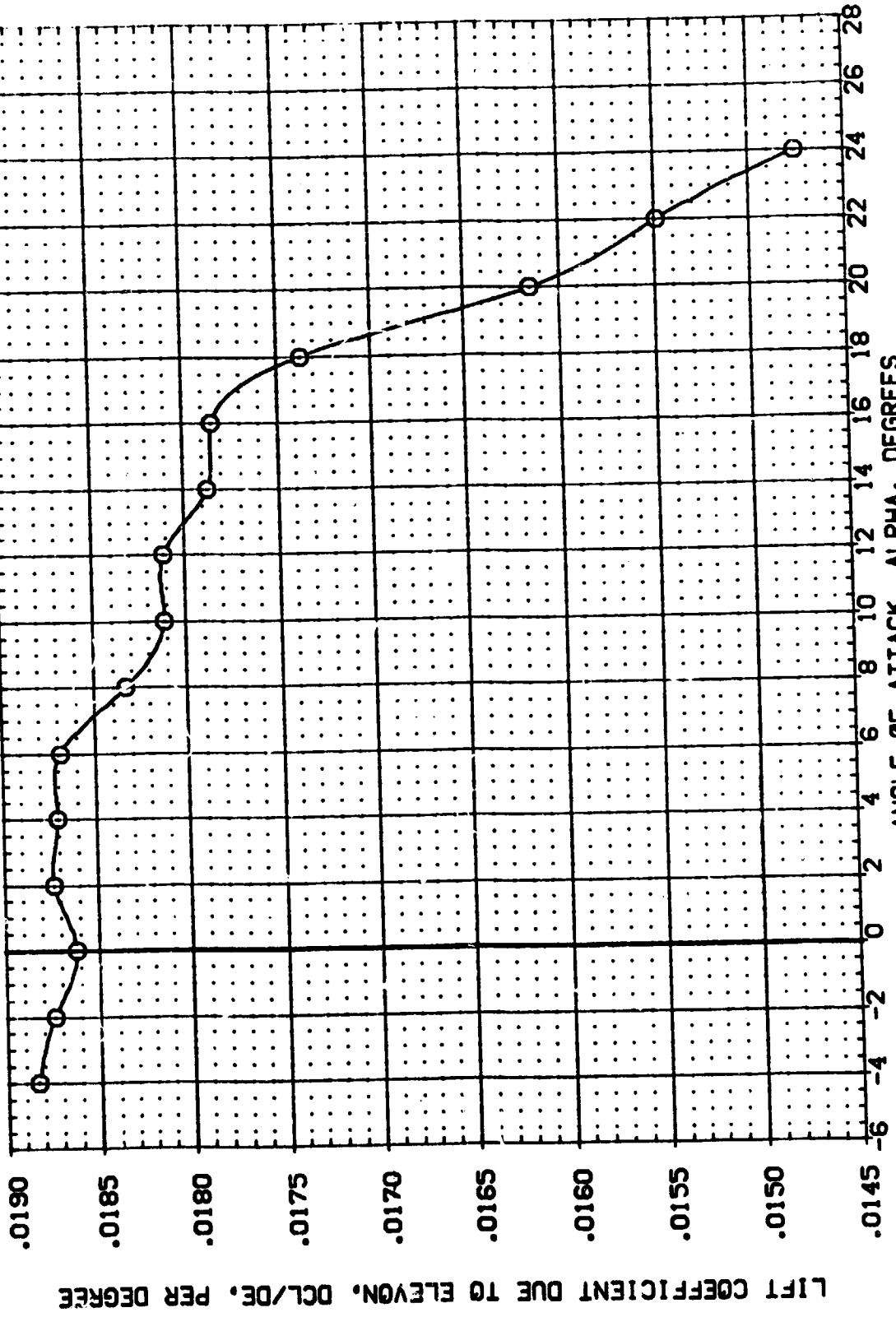


FIGURE 17 ELEVON EFFECTIVENESS WITH H5 CANARD AT 0 DEG. INCIDENCE

(A)MACH = .26

SREF	4.4119	50 FT.
LREF	7.2259	INCHES
BREF	37.9359	INCHES
XREF	43.5974	INCHES
YREF	.0000	INCHES
ZREF	16.2200	INCHES
	.0405	SCALE

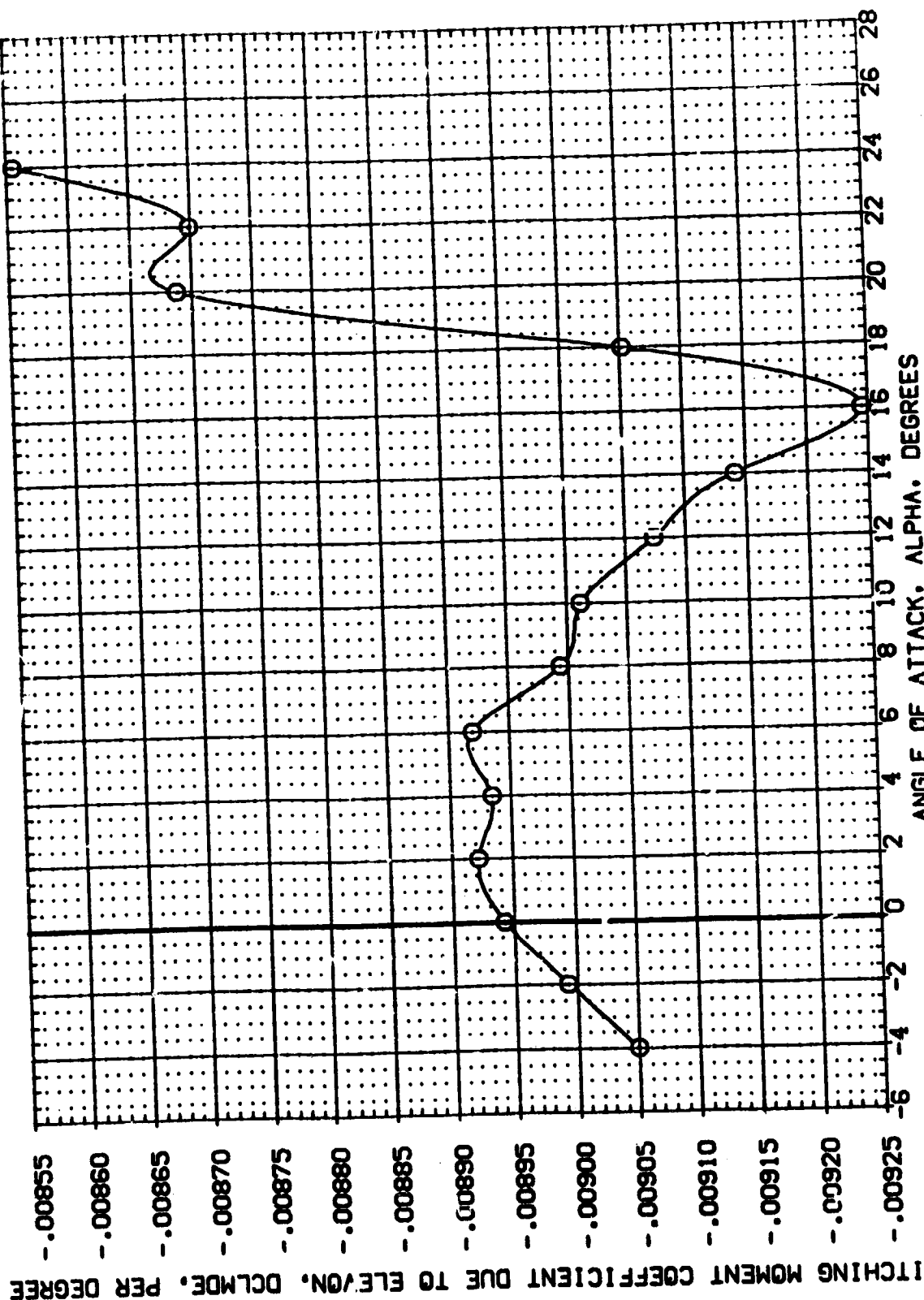


FIGURE 17 FLEVEN EFFECTIVENESS WITH H5-CANARD AT 0 DEG. INCIDENCE

**[A]MACH = .26**

DATA SET SYMGL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(1DP123)	QAZ1 B17C7 HSM4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(1DP140)	QAZ1 B17C7 HSM4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	LREF 19.2298 INCHES
						BREF 37.9359 INCHES
						YREF 43.5574 INCHES
						ZREF .0000 INCHES
						SCALE 16.2000 INCHES

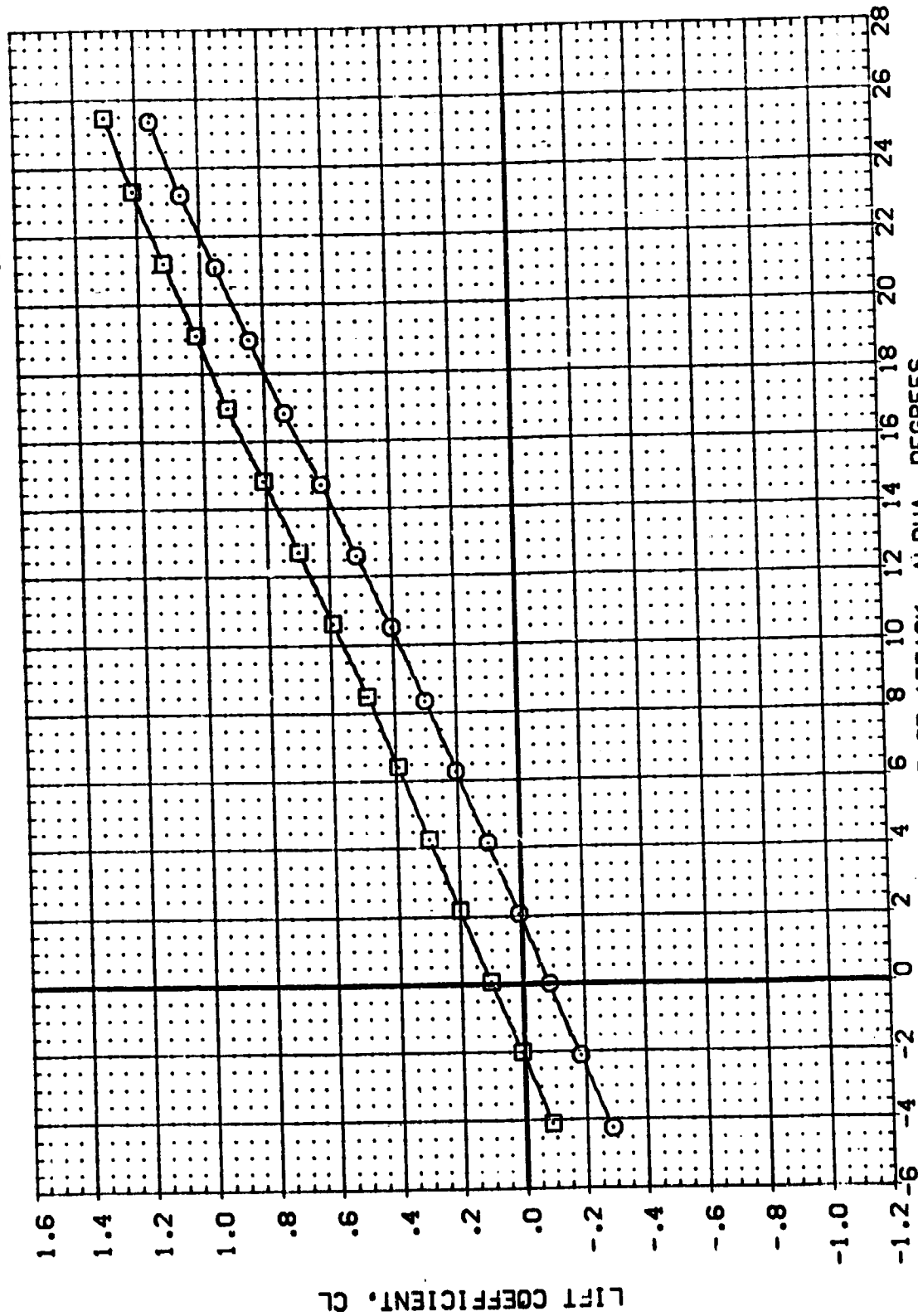


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 {IDP123} 0A21 817C7 H5H4F5 V107E23V7R6X9  
 {IDP140} 0A21 817C7 H5H4F5 V107E23V7R6X9

ELEVON AIRLON BOFLAP SPOBRK  
 10.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

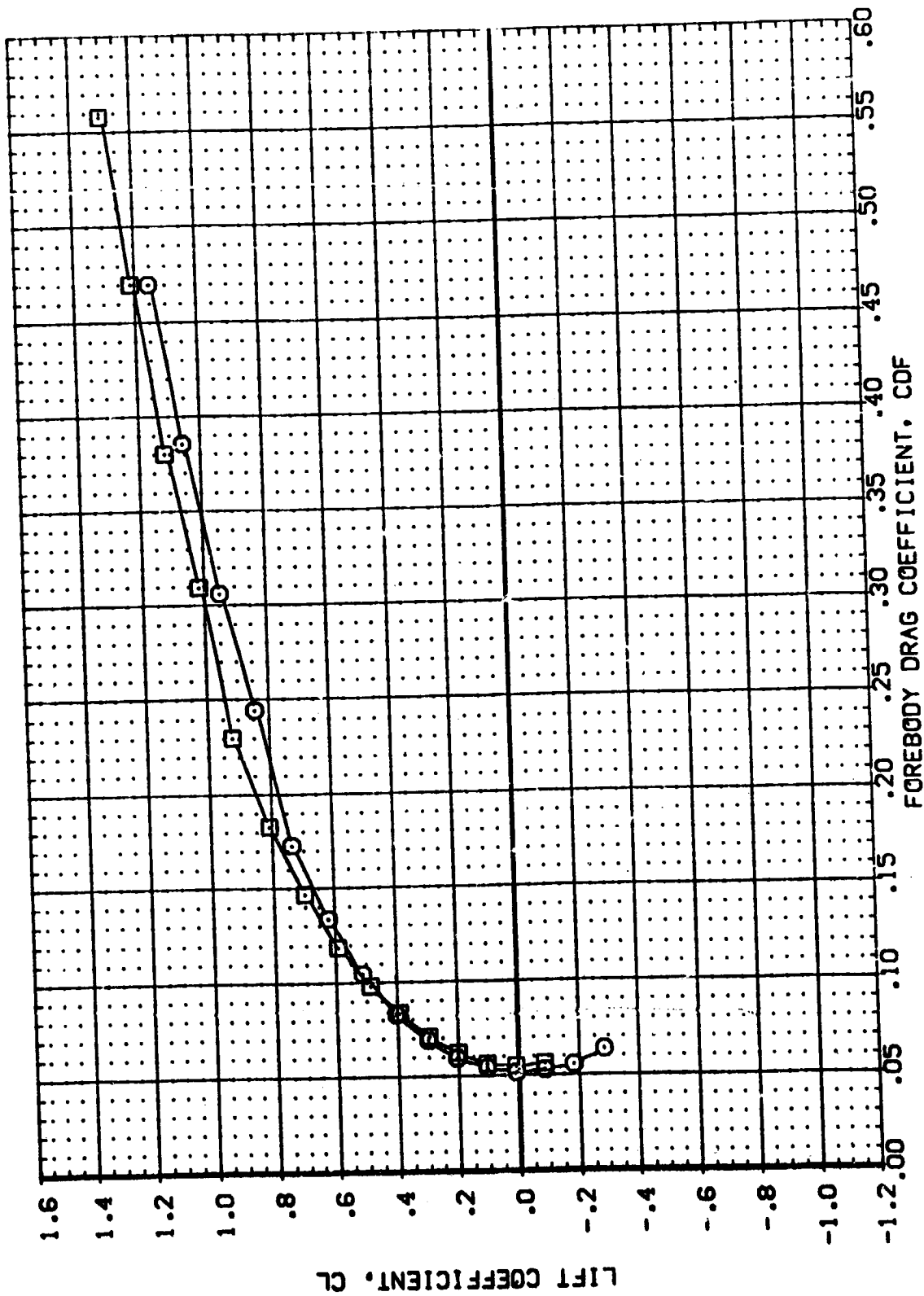


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: (1DP123) (1DP140)  
 CONFIGURATION DESCRIPTION: DA21 817C7 HSMHFS V107E23V7R6X9  
 DA21 817C7 HSMHFS V107E23V7R6X9

ELEVON: .000  
 AIRLON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000  
 SCALE: .0405

REFERENCE INFORMATION:  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2298 INCHES  
 BREF: 37.9359 INCHES  
 XGRP: 43.5974 INCHES  
 YGRP: .0000 INCHES  
 ZGRP: 16.2030 INCHES  
 SCALE: .0405

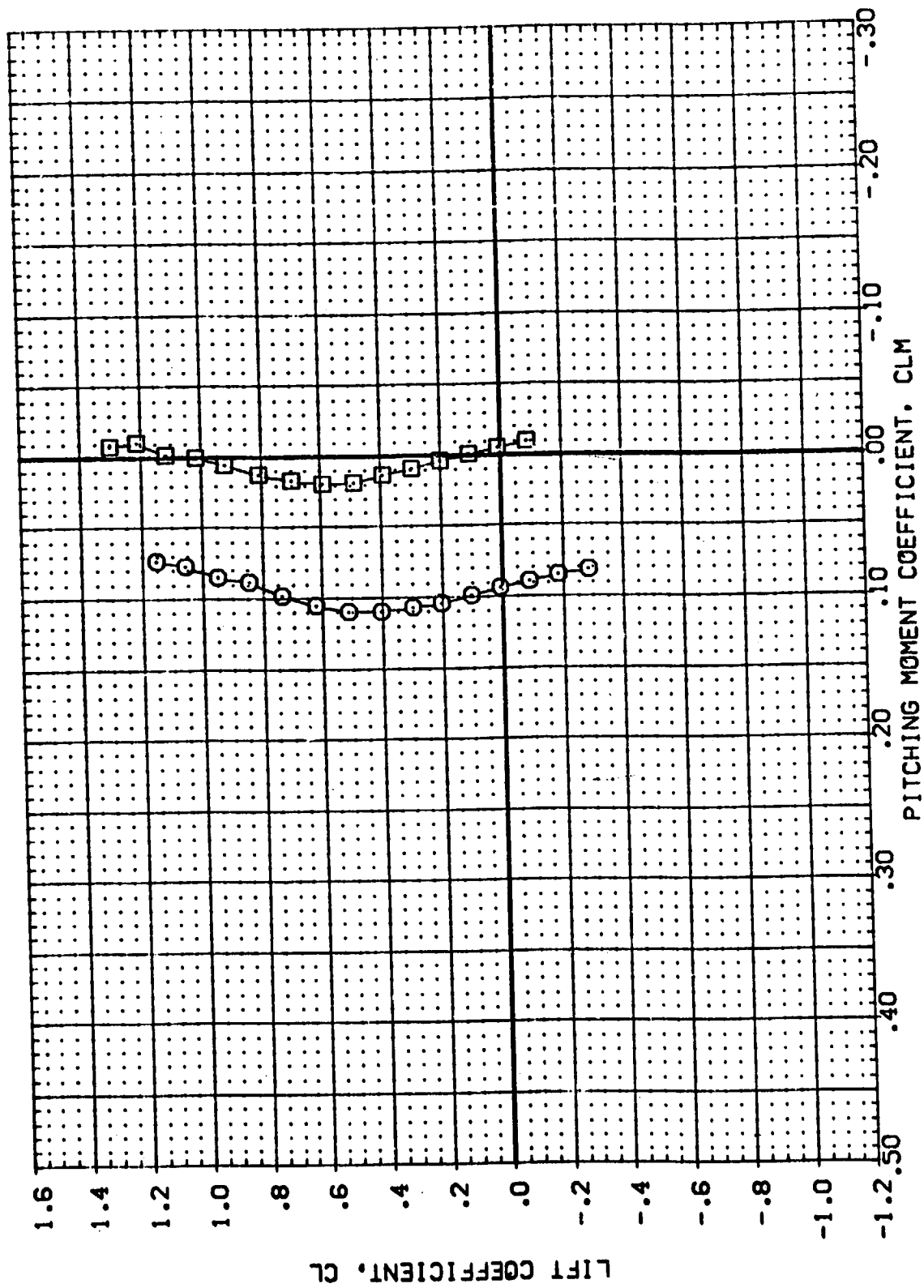


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10P123) 0A21 B17C7 H5M4F5 V107E23V7R6X9  
 (10P140) 0A21 B17C7 H5M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 0.000 .000 .000 55.000  
 10.000 -18.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.1119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 10.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

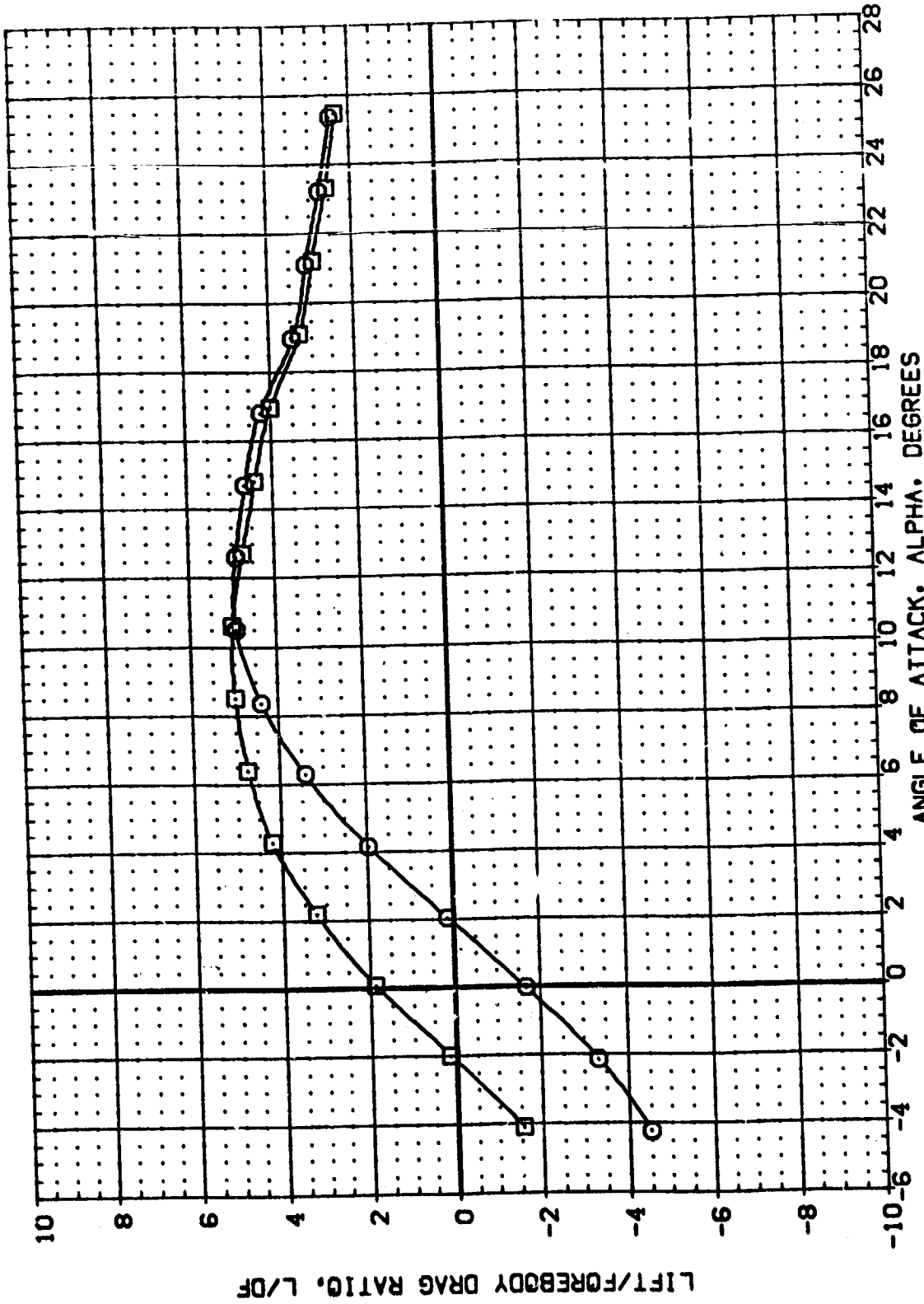


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(IDP123)	0A21 B17C7 HGM4F5 V107E23V7R6X9	.000	.000	-18.000	\$5.000	SREF 4.4119 50.00
(IDP140)	0A21 B17C7 HGM4F5 V107E23V7R6X9	10.000	.000	-18.000	\$5.000	LREF 19.2259 10.00
						BREF 37.9559 10.00
						XREF 43.5574 10.00
						YREF .0000 10.00
						ZREF 16.2000 10.00
						SCALE .0405 10.00

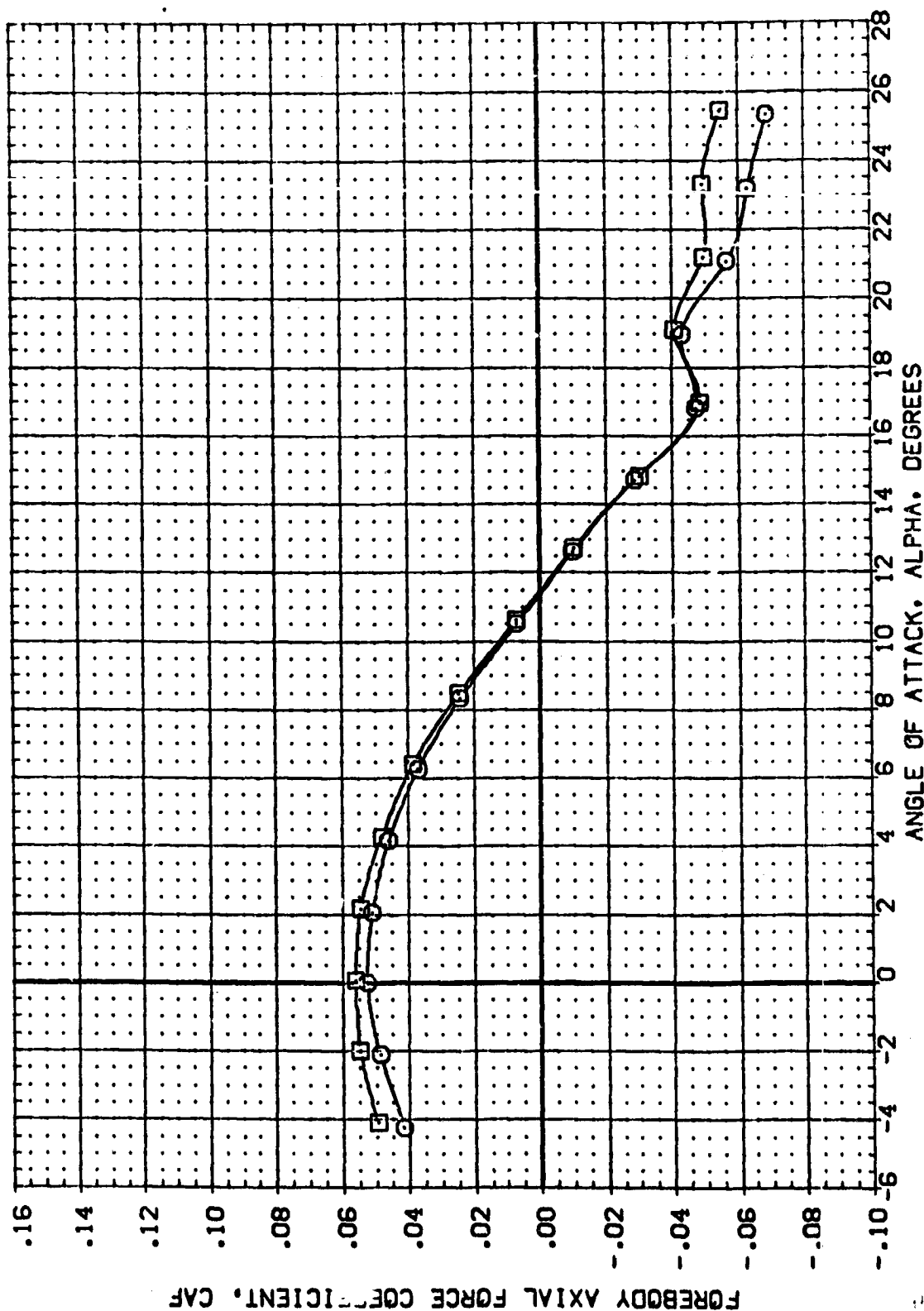


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[[DP123]]	0A21	817C7 HSMF5	V107E23V7R6X9	SREF	4.4119 SQ.FT.
[[DP140]]	0A21	817C7 HSMF5	V107E23V7R6X9	LREF	19.2299 INCHES
				BREF	37.9359 INCHES
				XMRP	43.5574 INCHES
				YMRP	.0000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405 SCALE

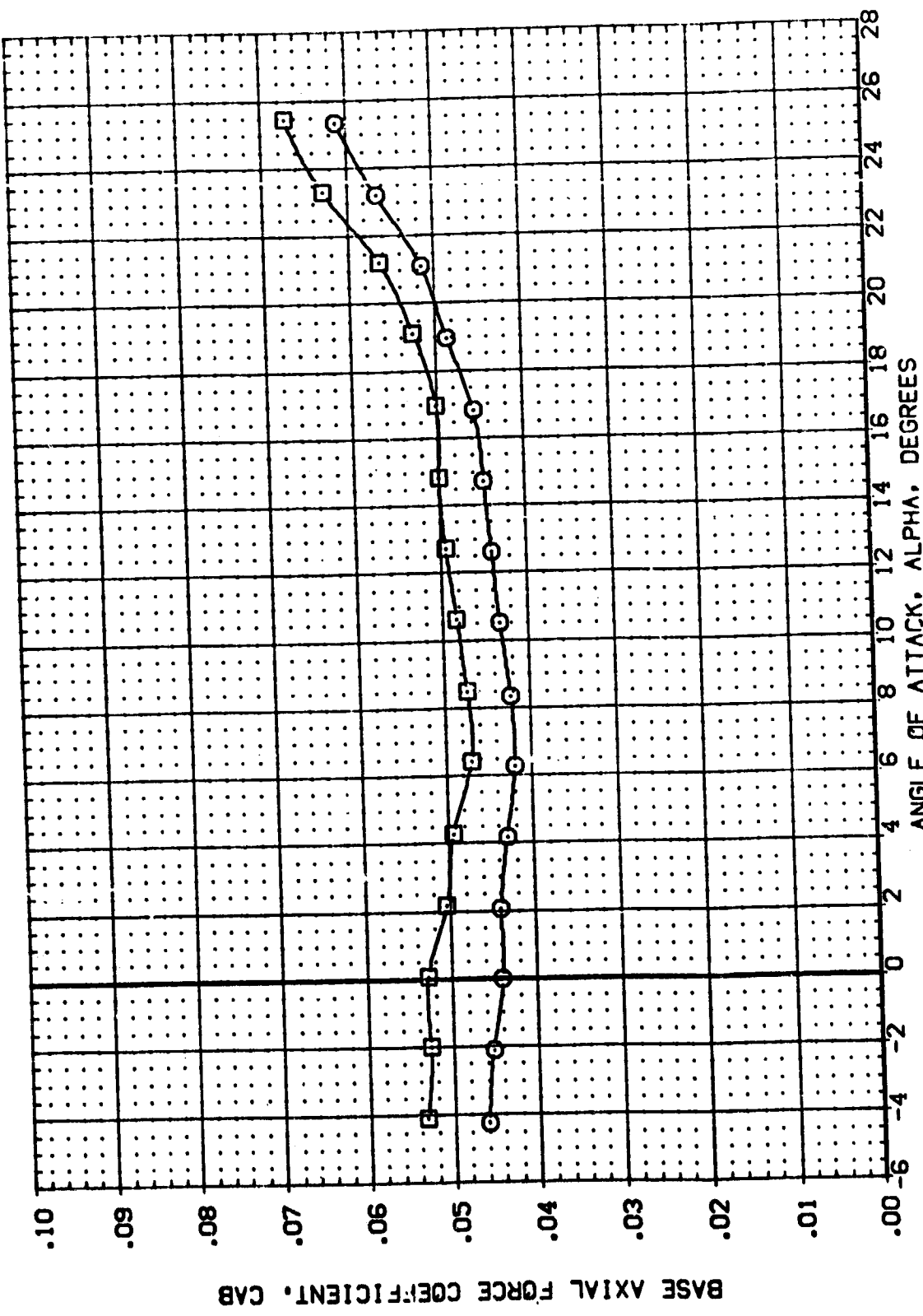


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP123) □ OA21 B17C7 H5M4F5 V107E23V7R6X9  
 (IDP140) □ OA21 B17C7 H5M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0435

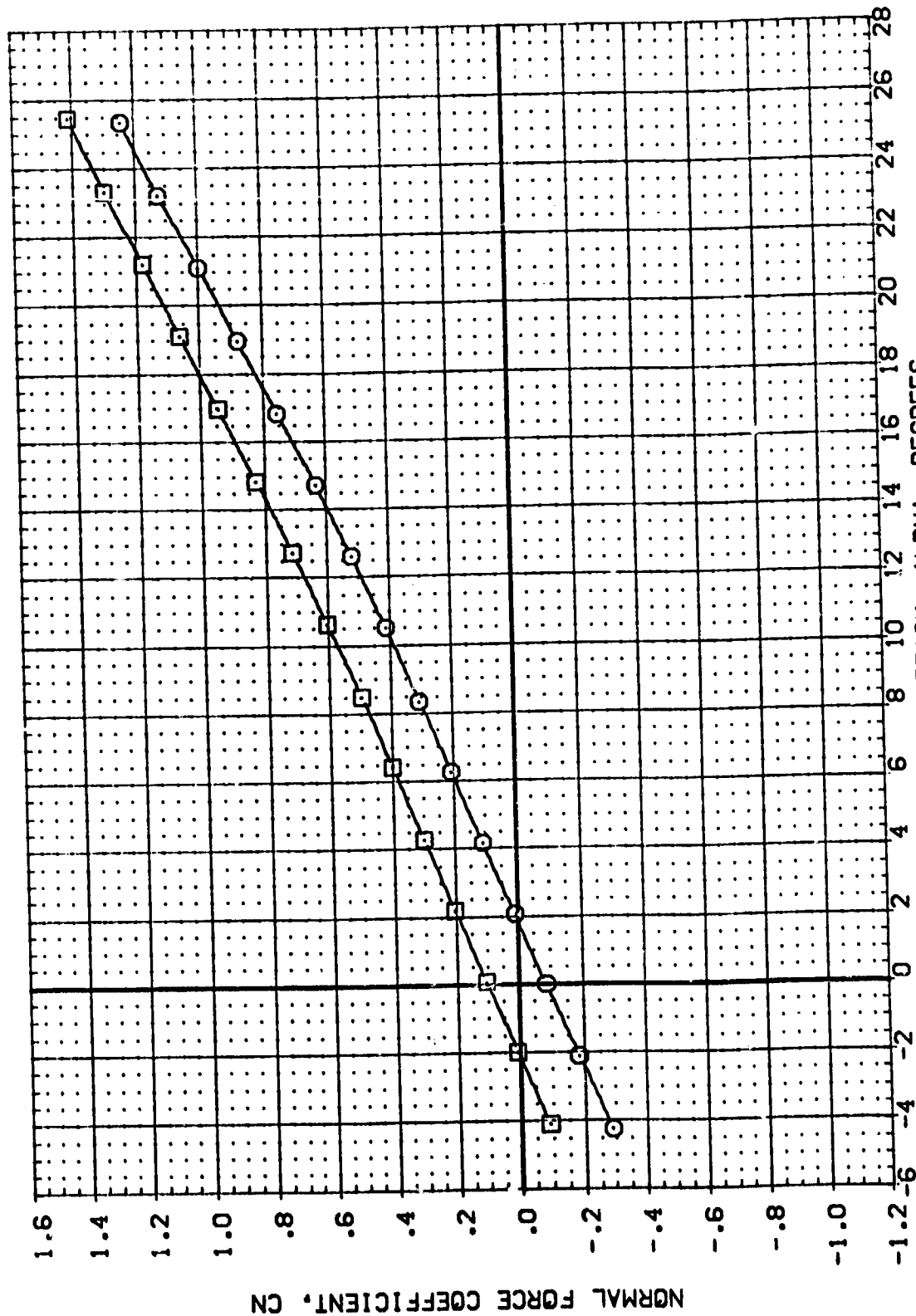


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10P123) 0A21 817C7 H5H4F5 V107E23V7R6X9  
 (10P140) 0A21 817C7 H5H4F5 V107E23V7R6X9

ELEVON AIRLON BOFLAP SPOBRK REFERENCE INFORMATION  
 ELEVON .000 .000 .000 SREF 4.4119 SQ.FT.  
 10.000 .000 .000 LREF 19.2288 INCHES  
 .000 .000 .000 BREF 37.8358 INCHES  
 .000 .000 .000 XMRP 43.5874 INCHES  
 .000 .000 .000 YMRP .0000 INCHES  
 .000 .000 .000 ZMRP 16.2000 INCHES  
 .000 .000 .000 SCALE .0405 SCALE

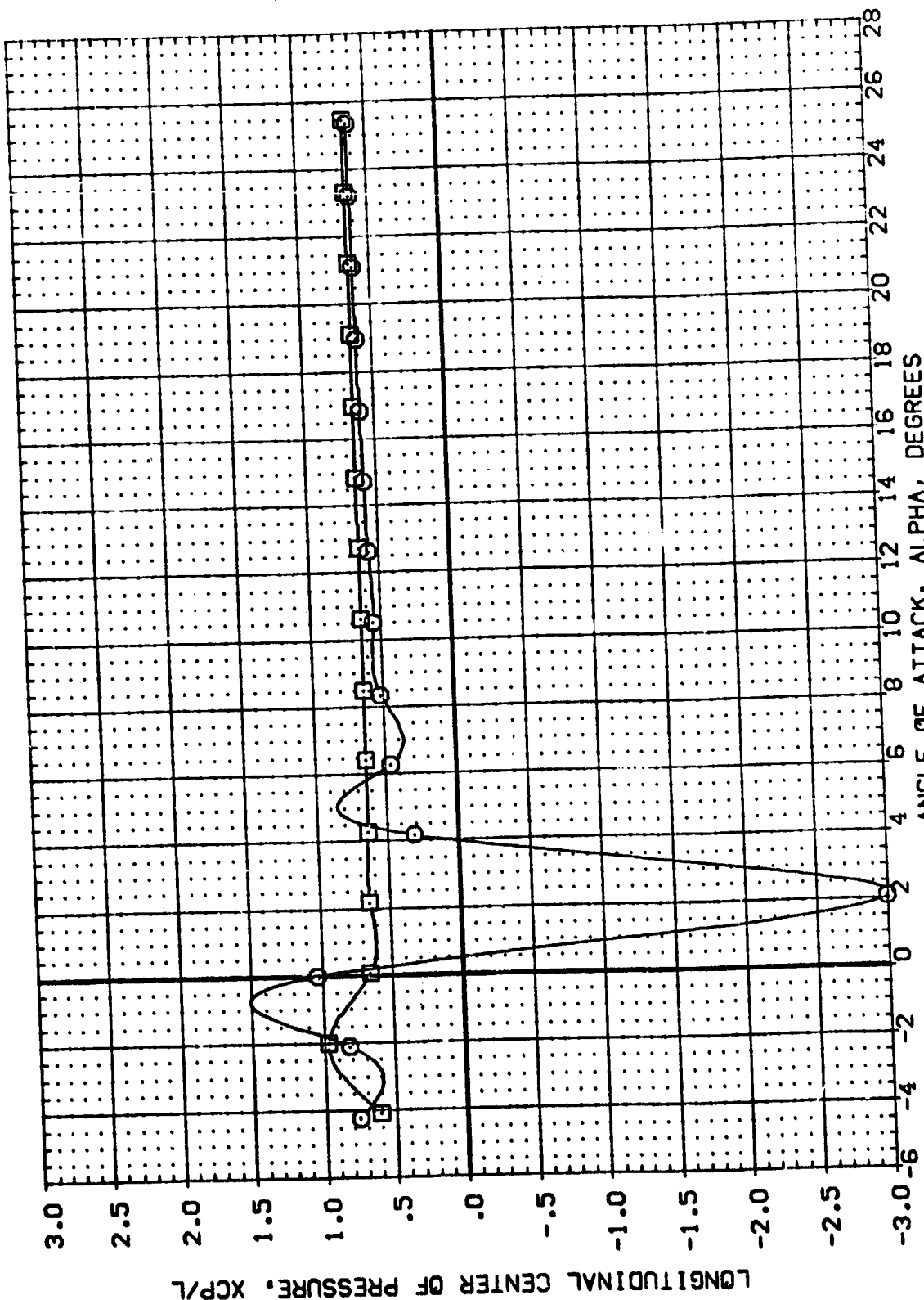


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP123) 817C7 H5M4F5 V107E23V7R6X9  
 (IDP140) 817C7 H5M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 .000 .000  
 10.000 .000 .000 .000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

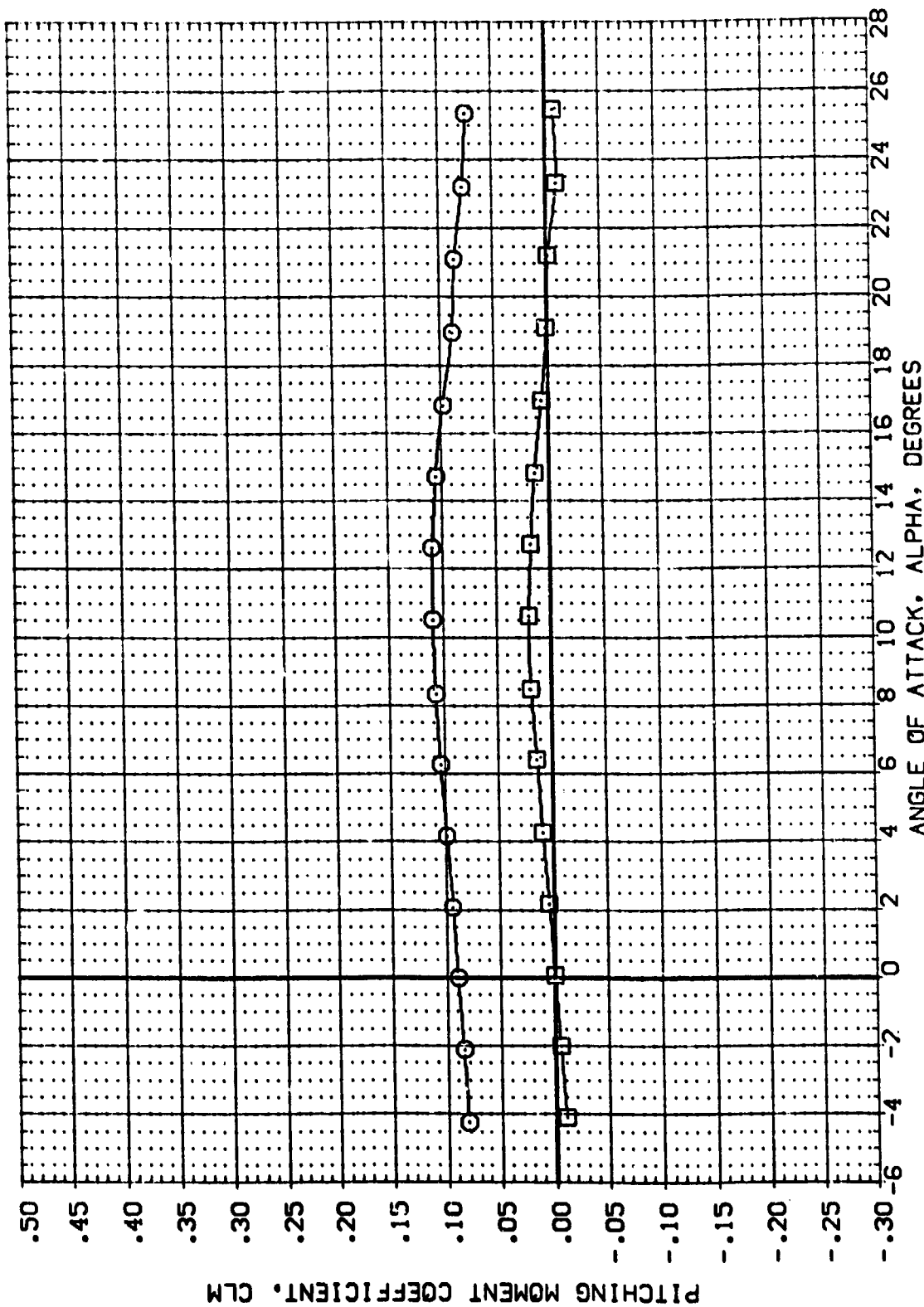


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
(00P140)    O    0421    B17C7 H54F5    V107E23V7R6X9

MAXELE    DELELE    BDFLAP    SP08BK  
10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
SREF    4.4119    50. FT.  
LREF    19.2259    INCHES  
BREF    37.9359    INCHES  
XMRP    43.5974    INCHES  
YMRP    0.000    INCHES  
ZMRP    16.2000    INCHES  
SCALE    .0405    SCALE

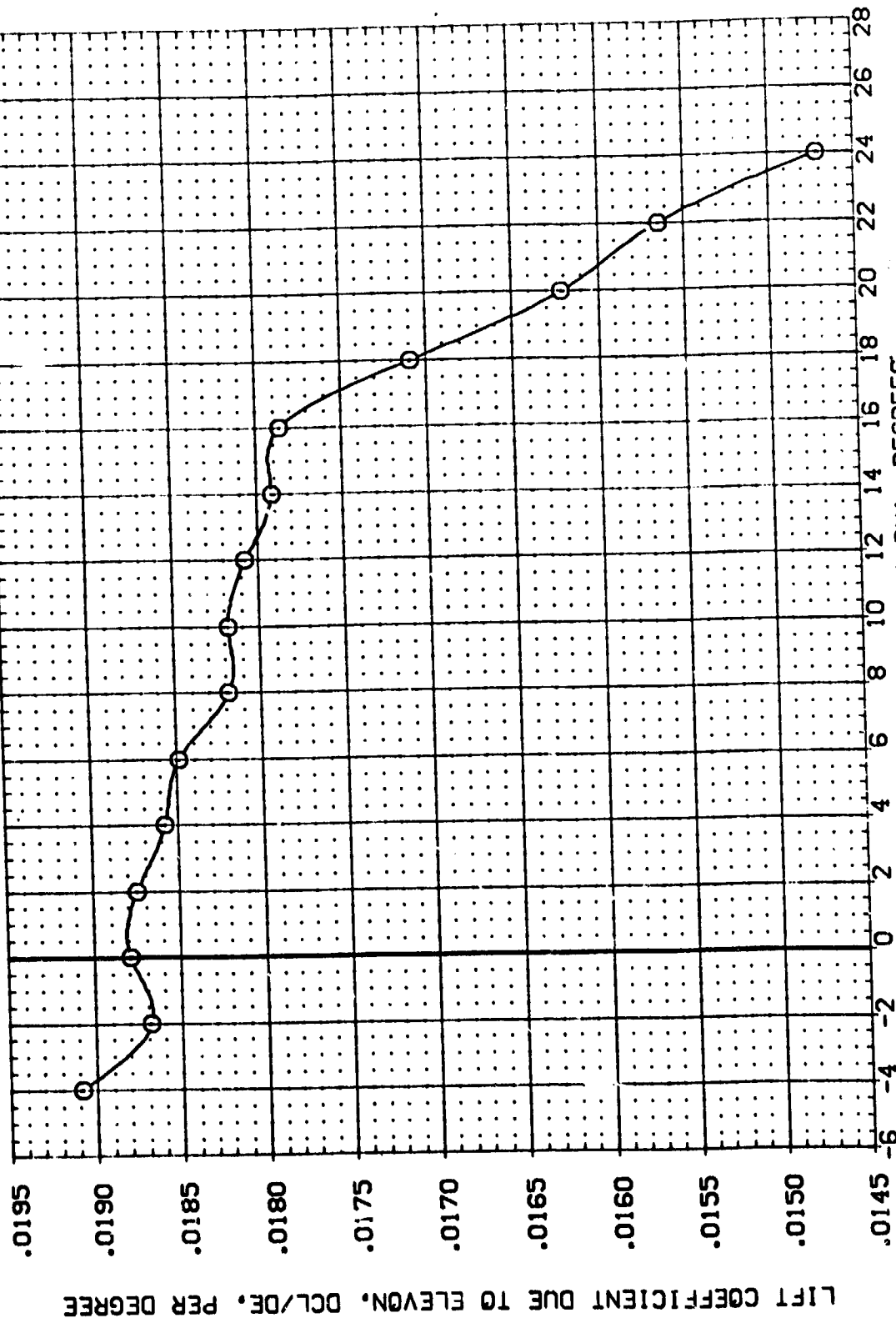


FIGURE 18 ELEVON EFFECTIVENESS WITH H5 CANARD AT 10 DEG. INCIDENCE

(A)MACH = .26



REFERENCE INFORMATION	
SREF	4.4119"
INCHES	19.2289
REF	37.9359
INCHES	37.9359
XREF	43.5874
INCHES	43.5874
YREF	.0000
INCHES	.0000
ZREF	16.2000
INCHES	16.2000
SCALE	.0405
SCALE	.0405

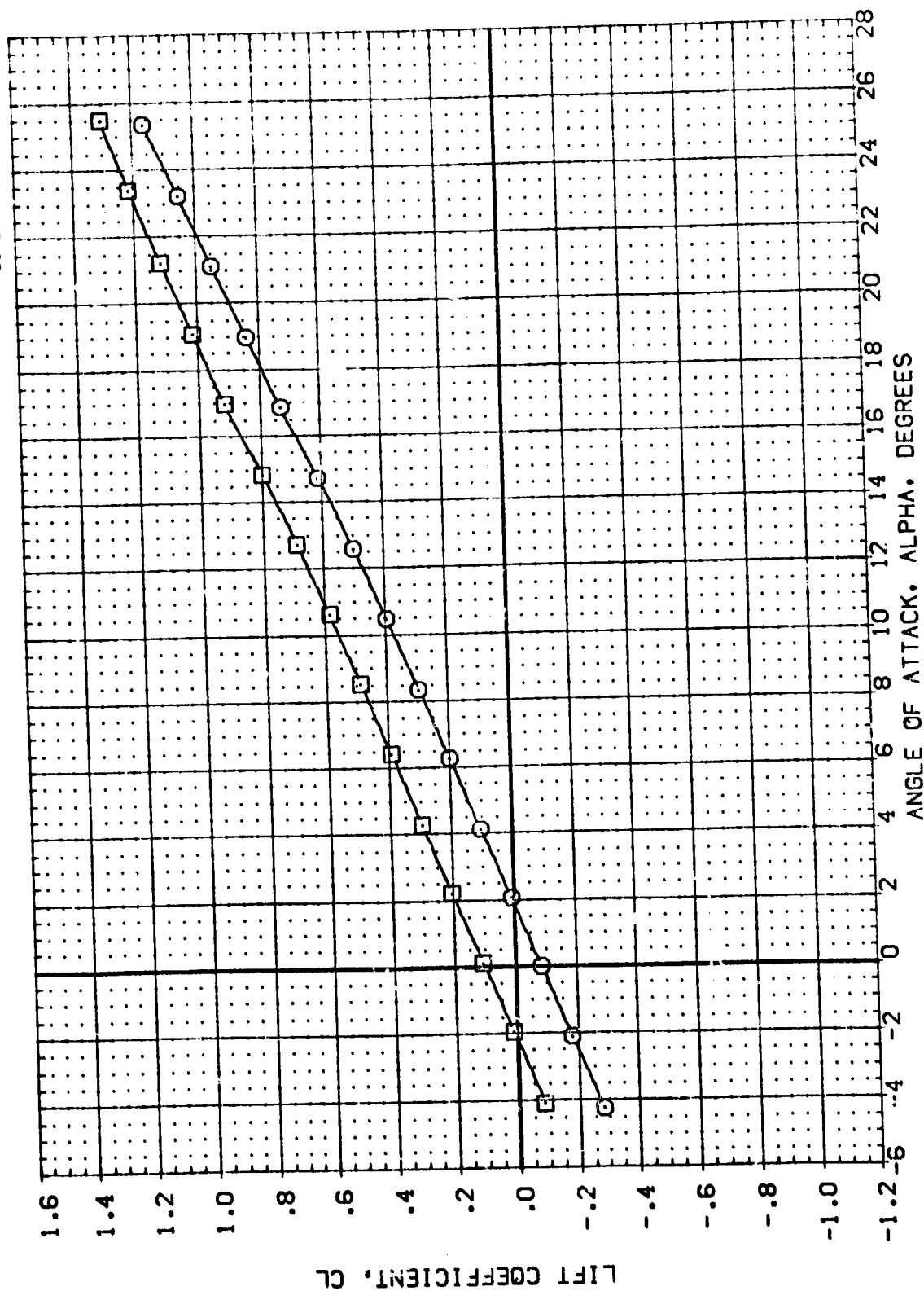


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

$$C_A]_{MACH} = .26$$

DATA SET SYMOL CONFIGURATION DESCRIPTION  
 (ID:24) 0A21 B17C7 H5M4FS V107E23V7R6X9  
 (ID:14) 0A21 B17C7 H5M4FS V107E23V7R6X9

ELEVON AILRON BOFLAP SPDRK  
 .000 .000 -18.000 55.000  
 10.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405 SCALE

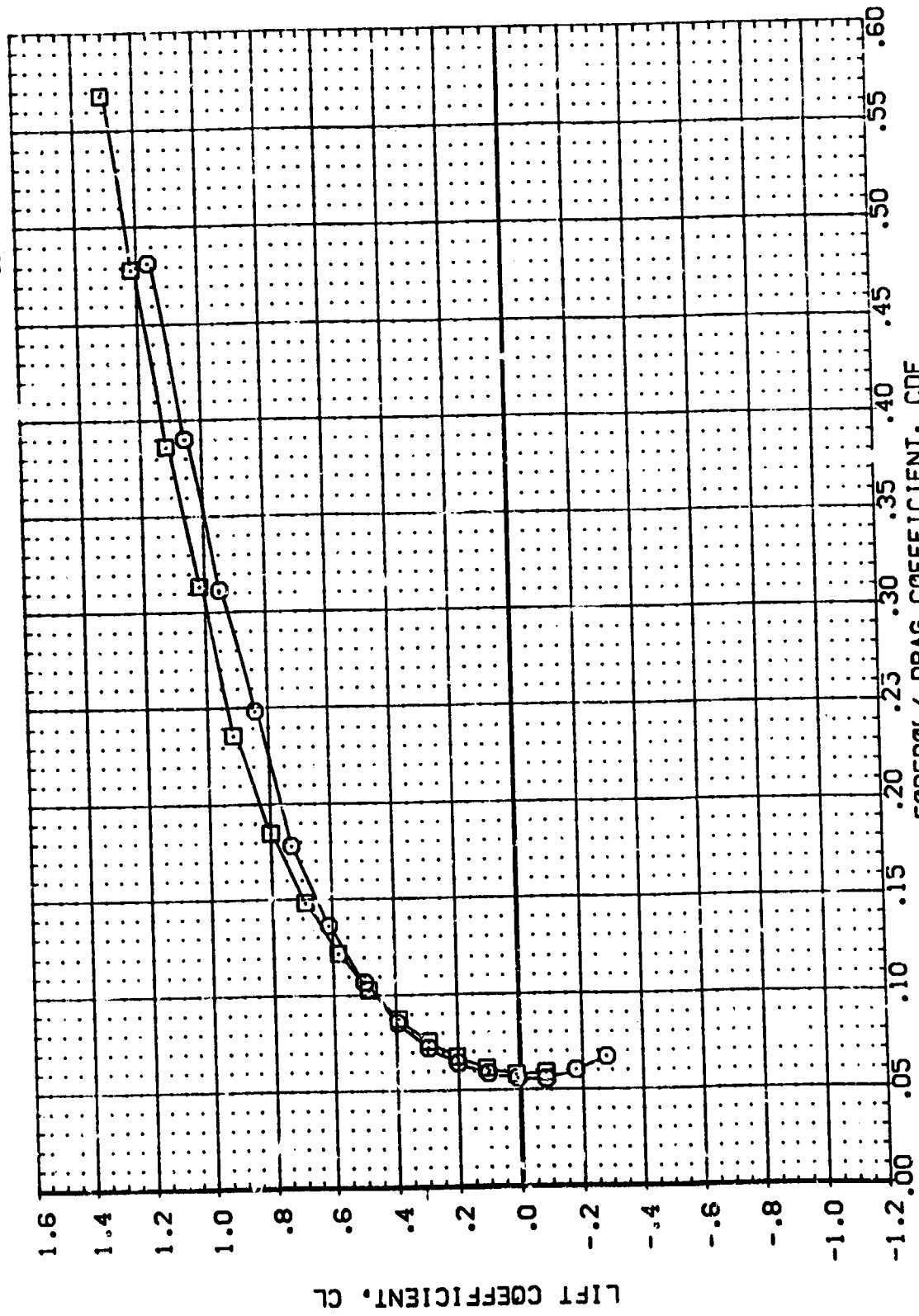
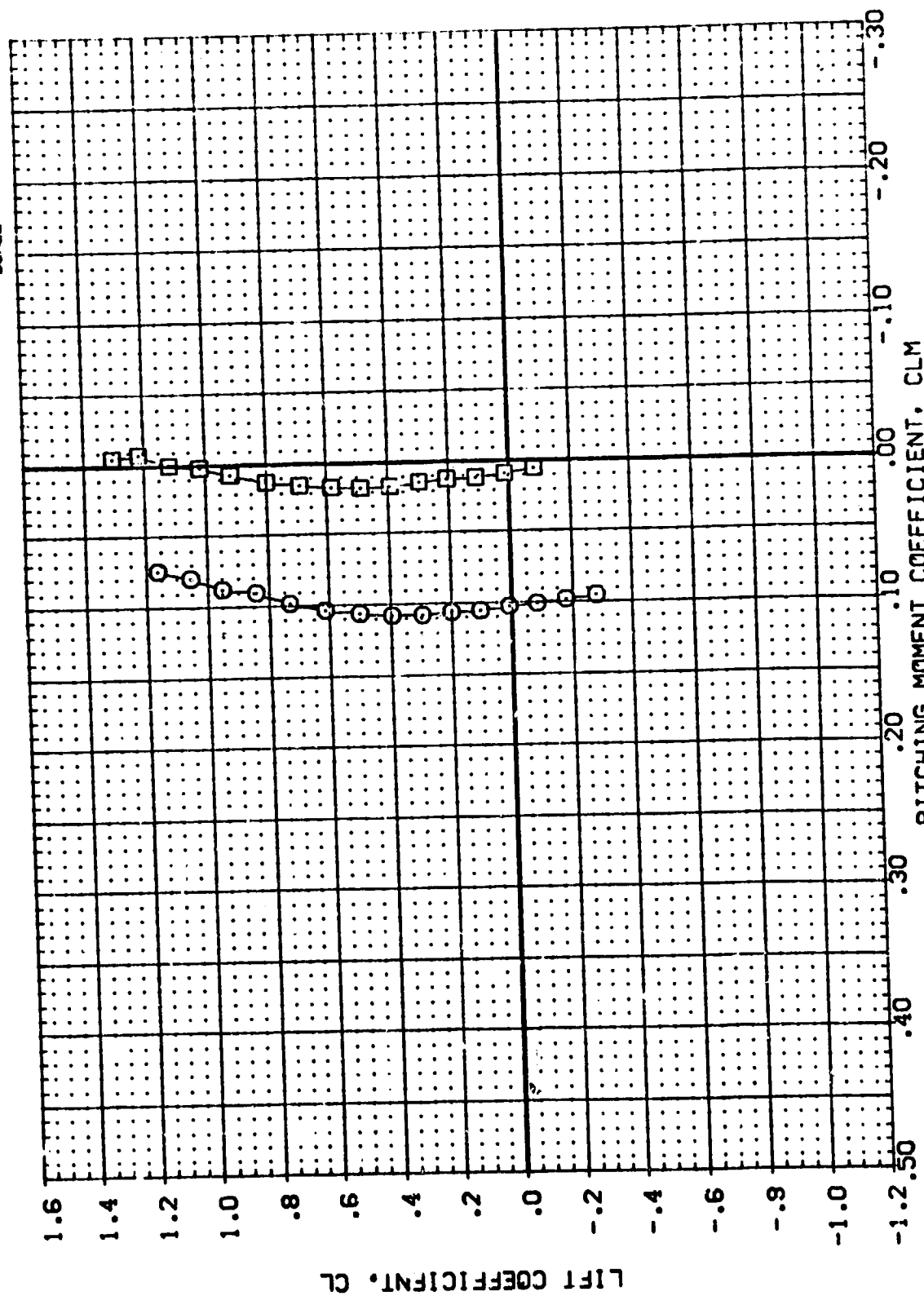


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(DP124)	DA21 817C7 5M4F5 V107E23V7R6X9
(DP141)	DA21 817C7 5M4F5 V107E23V7R6X9

ELEVON		AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION	
.000	.000	.000	55.000	SREF	14.4119	30.0 FT.
10.000	.000	-18.000	55.000	LREF	19.2269	20.0 FT.
		-18.000		BREF	37.9359	20.0 FT.
				XPRP	43.5874	20.0 FT.
				YPRP	.0000	20.0 FT.
				ZPRP	16.2000	20.0 FT.
				SCALE	.0405	SCALE



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(10P124)	QA21 B17C7 H5M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 50. FT.
(10P141)	QA21 B17C7 H5M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	LREF 19.2298 INCHES
						BREF 37.5359 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

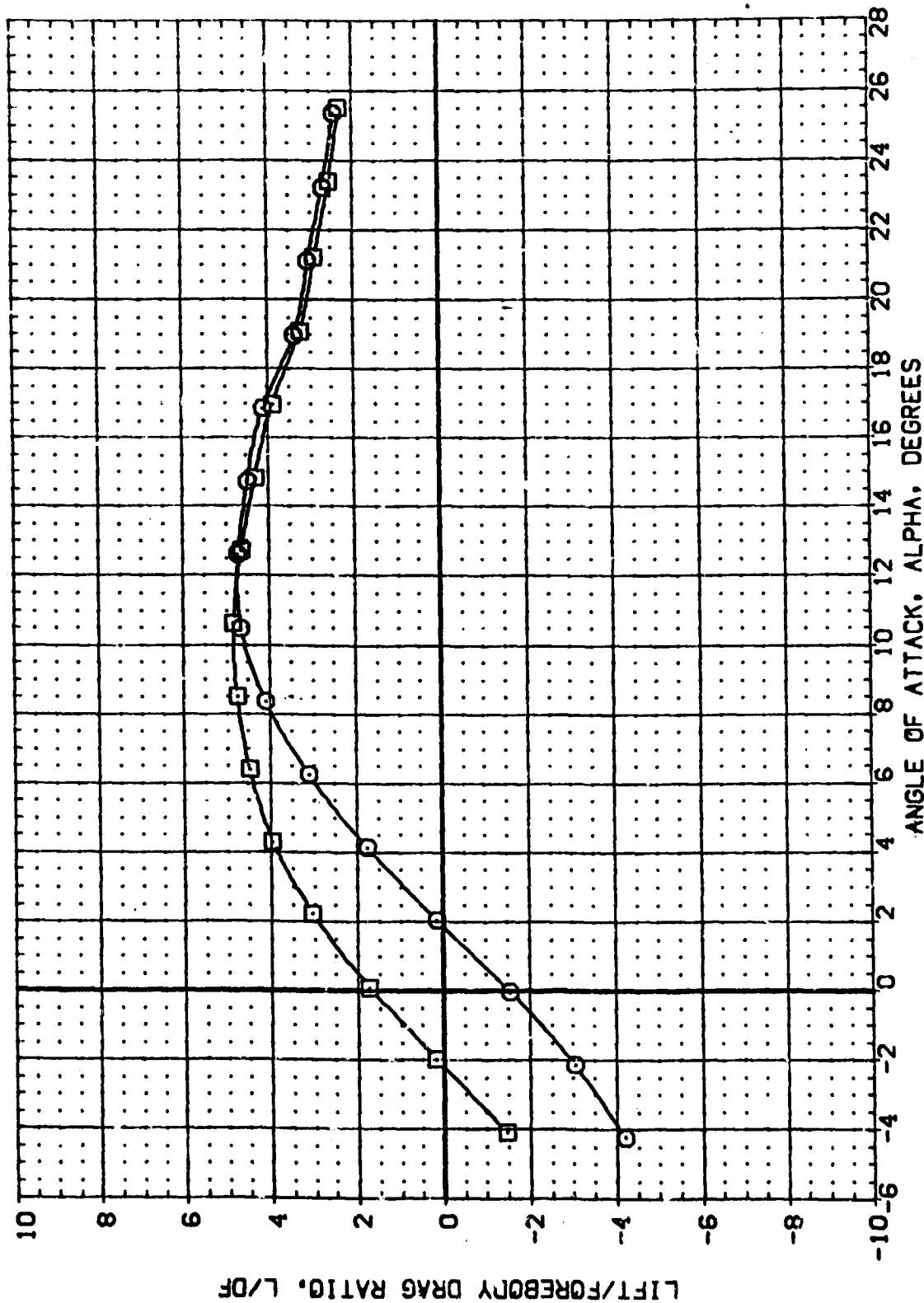


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL: B  
 CONFIGURATION DESCRIPTION:  
 (ID:124) 8A21 817C7 H5HAF5 V107E23V7R603  
 (ID:141) 8A21 817C7 H5HAF5 V107E23V7R603

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 95.000  
 10.000 .000 -18.000 95.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5874 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

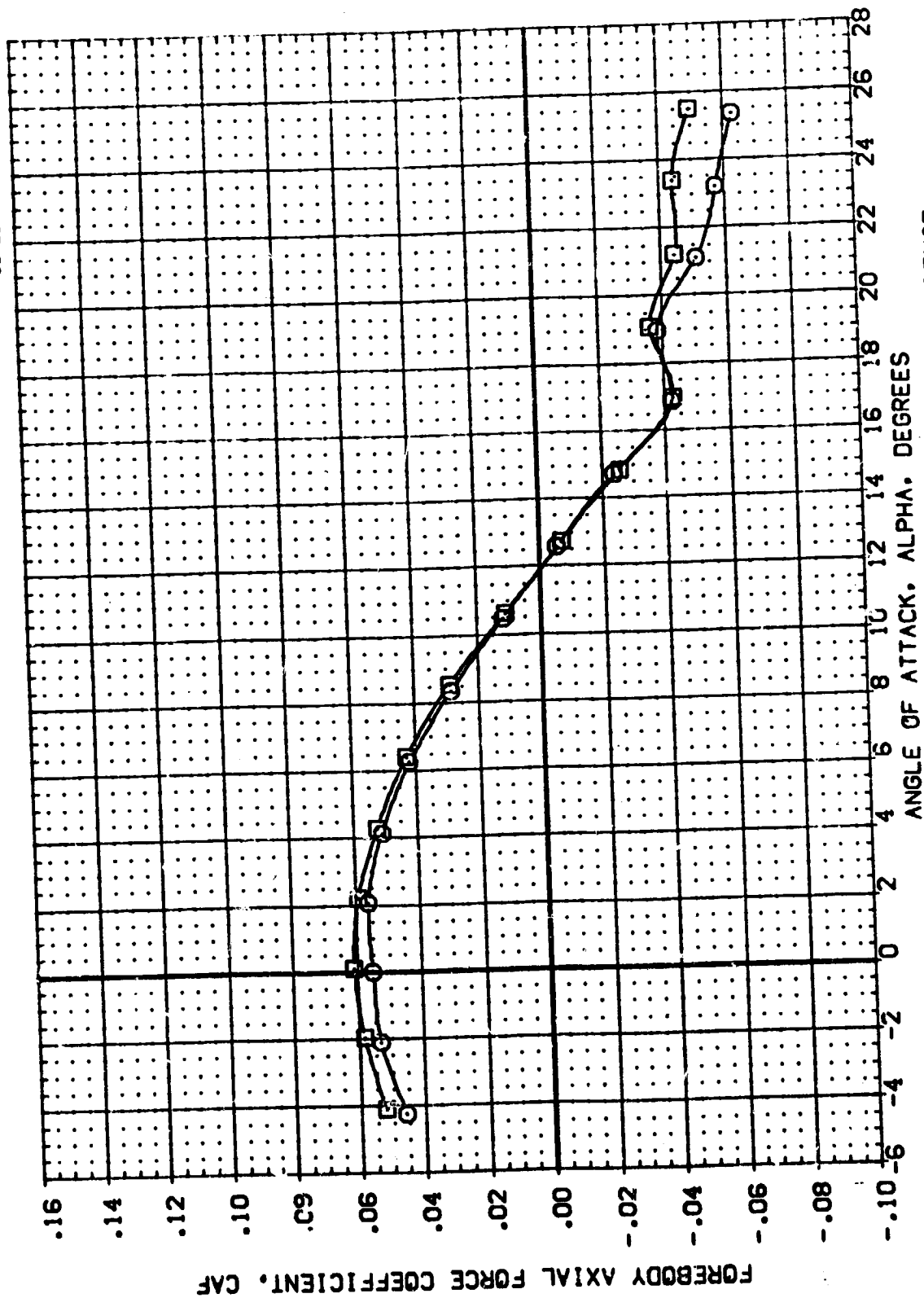


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(DP124)	Q21	B17C7 H5MFS	V107E23V7R6X8	SREF	4.1119
(DP141)	Q22	B17C7 H5MFS	V107E23V7R6X8	LREF	19.2299
				BREF	37.9359
				XMRP	43.5974
				YMRP	16.2000
				ZMRP	16.2000
				SCALE	.0405

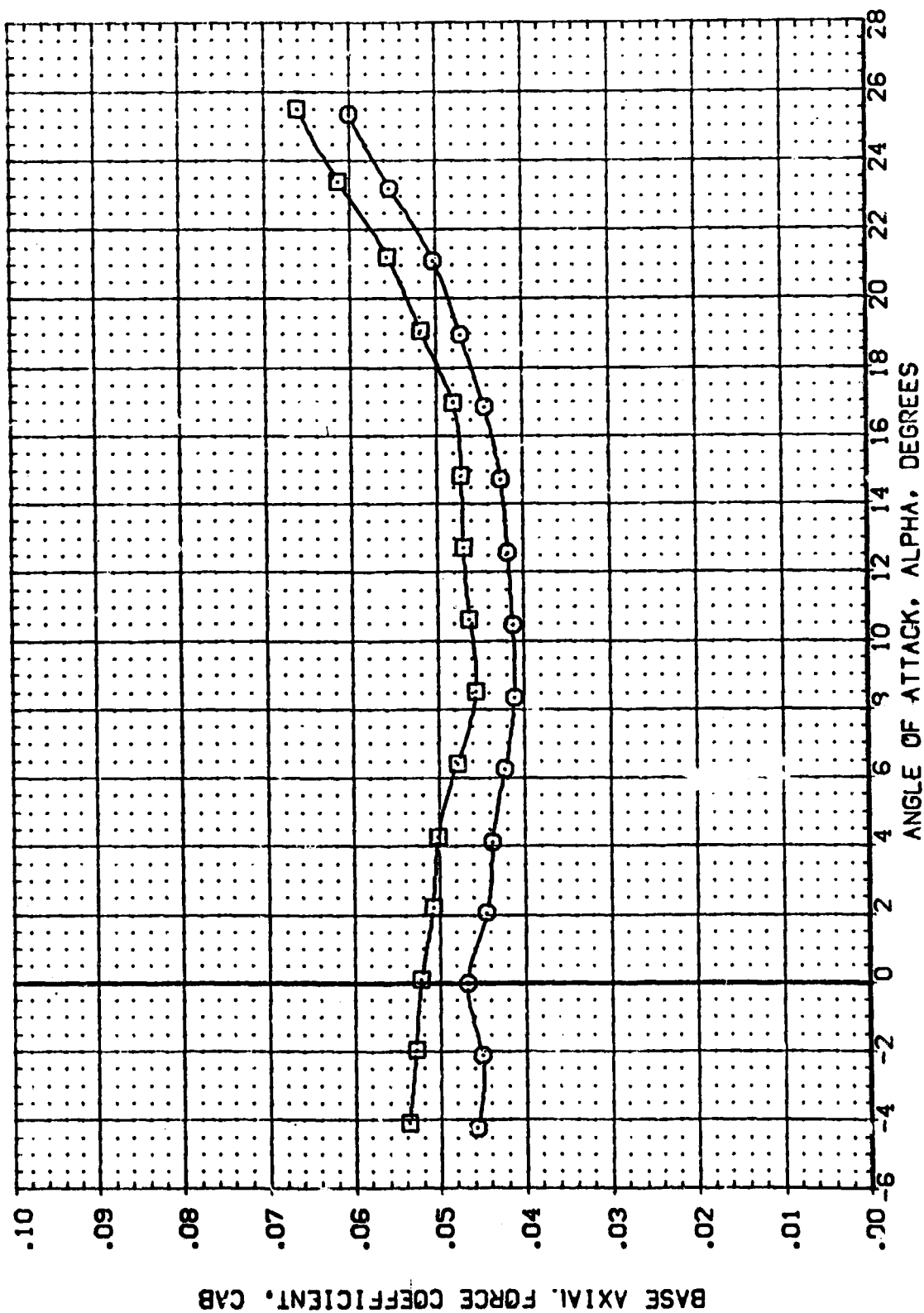


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(M)MACH = .26



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP124)	QAZ1	817C7 H5MFS	V107E23V7R6S	SREF	4.4119 SQ.FT.
(IDP141)	QAZ2	817C7 H5MFS	V107E23V7R6S	LREF	19.2259 INCHES
				BREF	37.5359 INCHES
				YARP	43.5574 INCHES
				ZARP	16.0000 INCHES
				SCALE	.0405 INCHES

ELEVON	ALLRON	BDCLAP	SPDRBK
.000	.000	-18.000	55.000
10.000	.000	-18.000	55.000

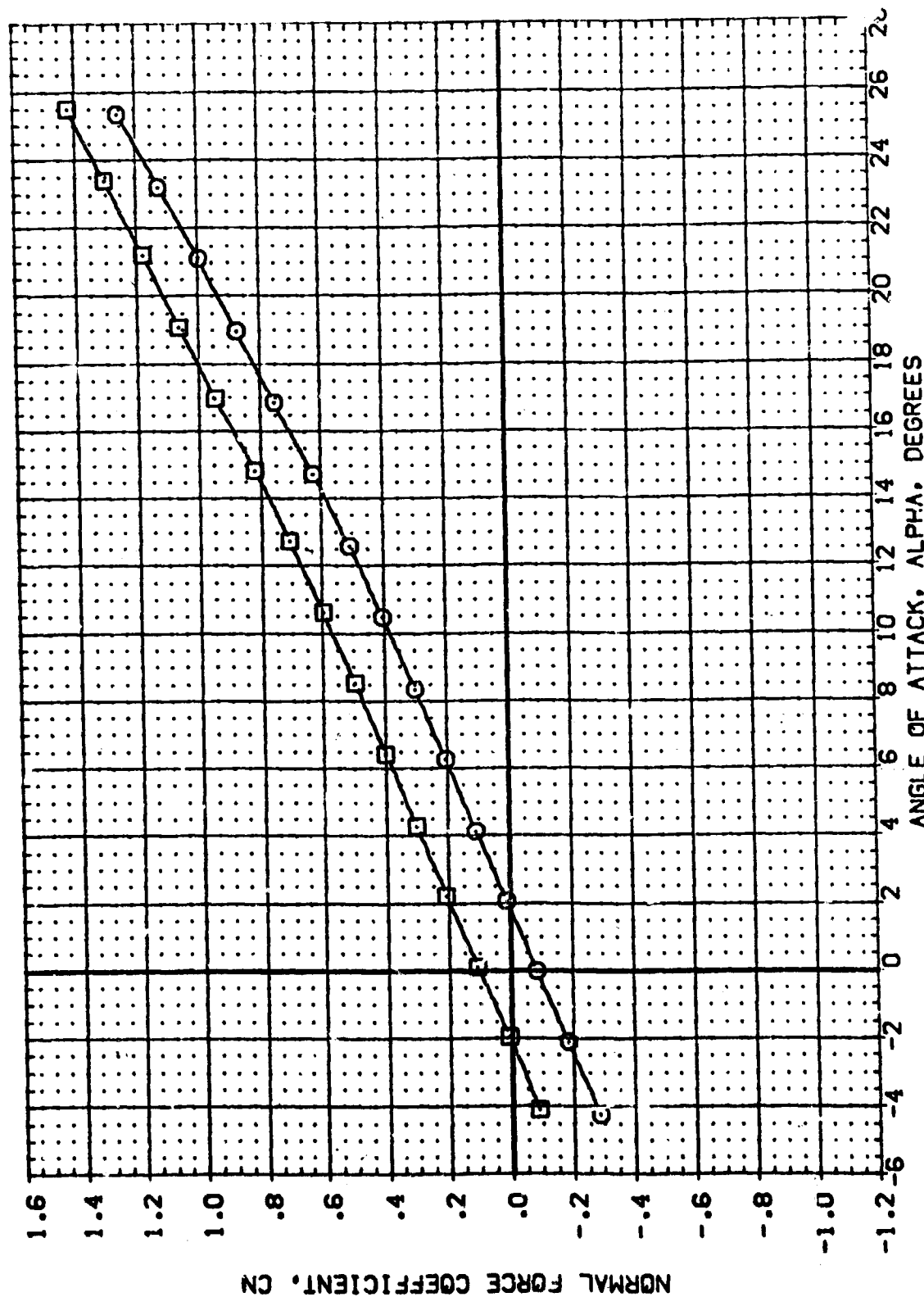


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET 517-80L CONFIGURATION DESCRIPTION  
 (DP124) 8 0A21 B17C7 H5MAFS V107E23V7R6X9  
 (DP141) 8 0A21 B17C7 H5MAFS V107E23V7R6X9

ELEVON AIRRON BOFLAP SPDRK  
 .000 .000 .000  
 10.000 .000 .000  
 55.000 55.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SO.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0435

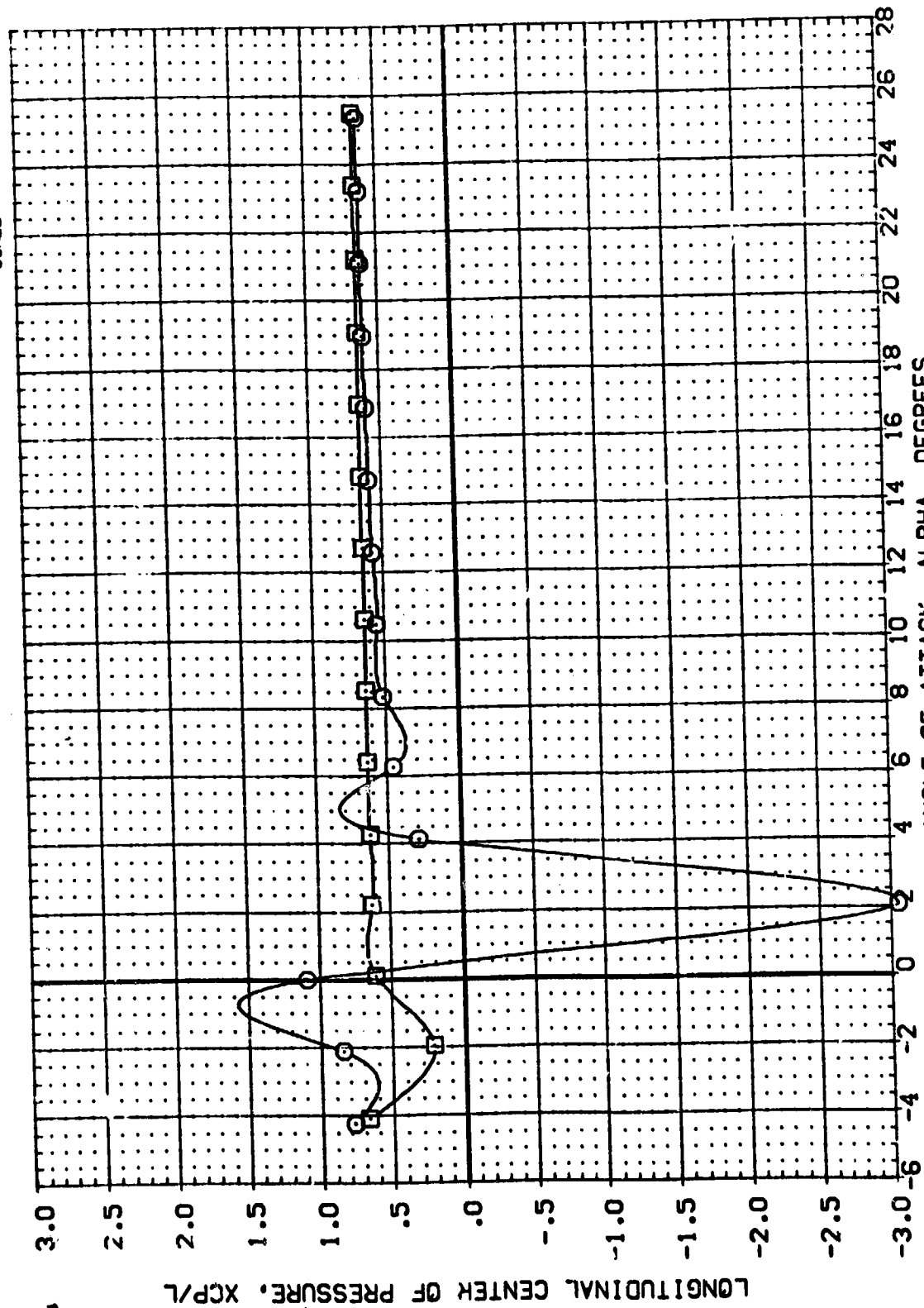


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 [10P124]    0A21    B17C7 H5MFS    V107E23V7R6S3  
 [10P141]    0A21    B17C7 H5MFS    V107E23V7R6S3

ELEVON    AILERON    BD FLAP    SPOILER    REFERENCE INFORMATION  
 .000    .000    -18.000    55.000    SREF    4.4119    SQ.FT.  
 10.000    .000    -18.000    55.000    LREF    19.2259    INCHES  
 .000    .000    .000    .000    BREF    37.9359    INCHES  
 .000    .000    .000    .000    XPRP    43.5974    INCHES  
 .000    .000    .000    .000    YPRP    .0000    INCHES  
 .000    .000    .000    .000    ZPRP    16.2000    INCHES  
 .000    .000    .000    .000    SCALE    .0405    SCALE

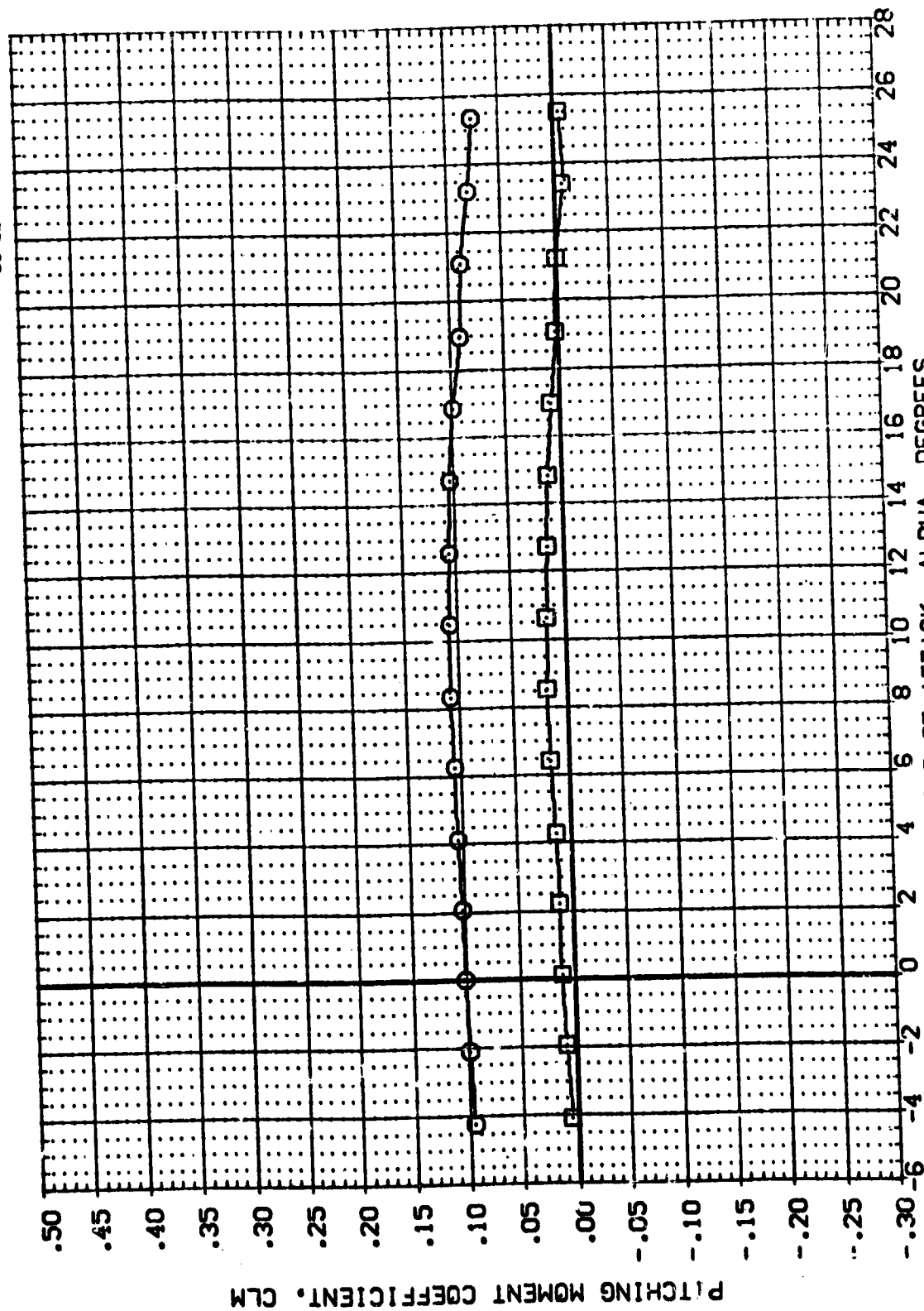


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(00P141) O 0A21 B17C7 H5M4F5 V10TE23V7R6X9

MAXELE	DELELE	BOFLAP	SPOBRK	REFERENCE INFORMATION	
10.000	10.000	-18.000	55.000	SREF	4.4119
				LREF	19.2289
				BREF	37.9359
				XMRP	43.5974
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405

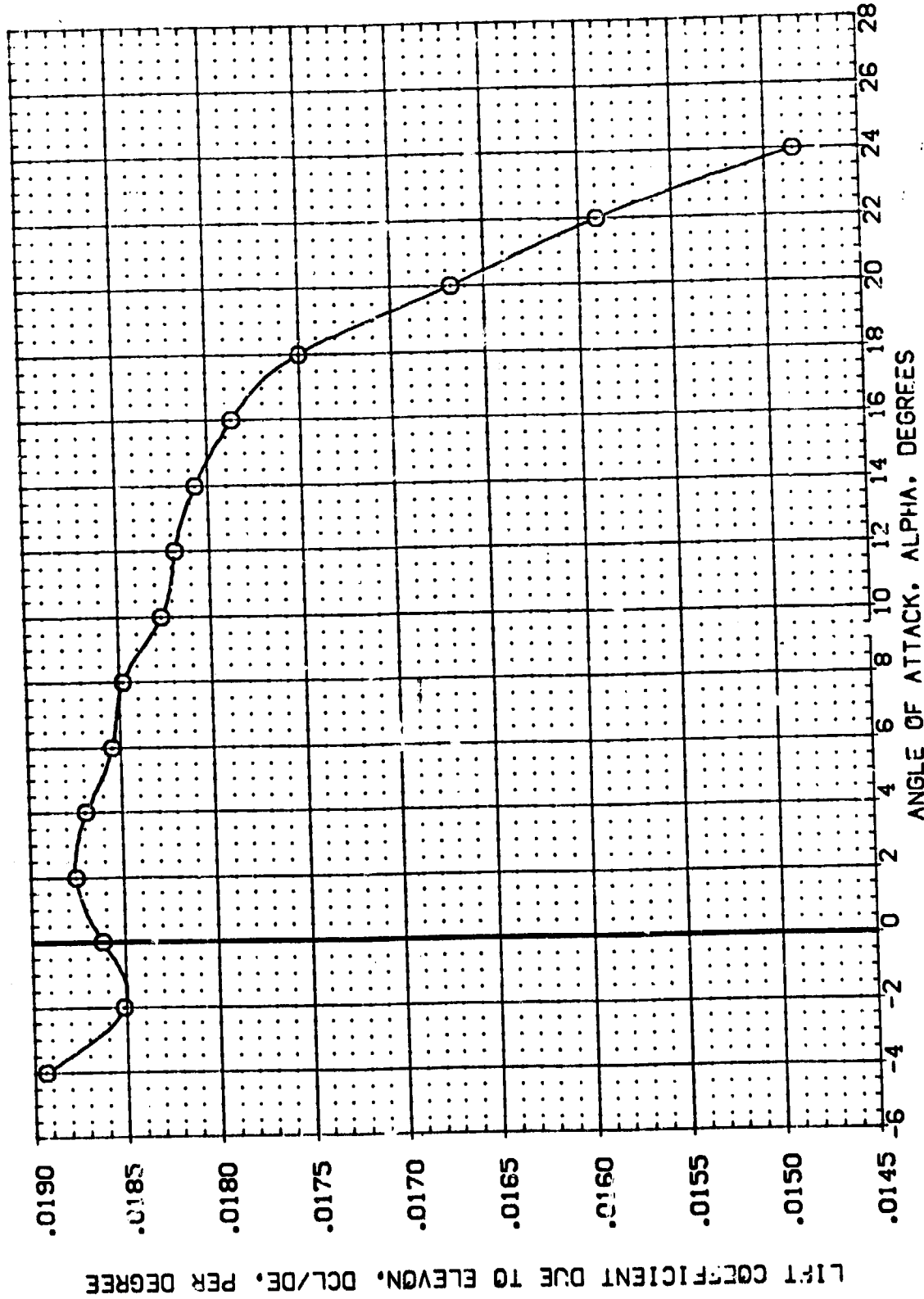


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL (00P141) O 0421 817C7 H5M4F5 VIC7E23V7M633

REFERENCE INFORMATION

SREF	4.4119	SG.FT.
LREF	19.2299	INCHES
BREF	37.5359	INCHES
XMRP	43.5574	INCHES
YMRP	1.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.2405	SCALE

MAXELE 10.000

DELELE 10.000

BOFLAP -18.000

SPDRK 55.000

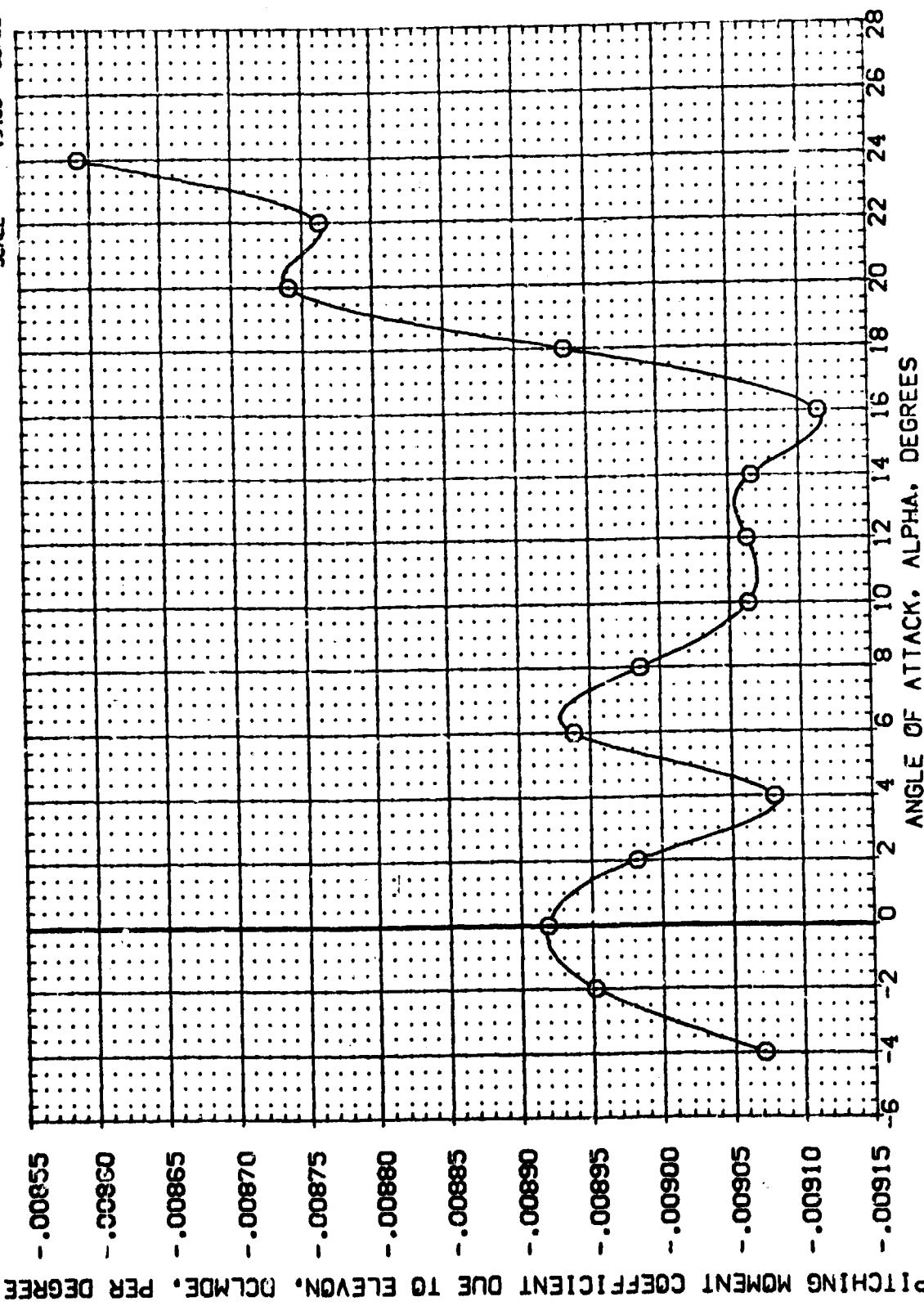


FIGURE 19 ELEVON EFFECTIVENESS WITH H5 CANARD AT 20 DEG. INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(1DP165) 0A21 8:7C7 HSM/5 V107E23V7R6 X9

(1DP165) 0A21 8:7C7-6 HSM/5 V107E23V7R6 X3

ELEVON AILRON BOFLAP SPOBRK

10.000 .000 -18.000 55.000

REFERENCE INFORMATION

SREF 4.4119 50.FT.

LREF 19.2299 INCHES

BREF 37.9359 INCHES

XMRP 43.5974 INCHES

YMRP .0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405 SCALE

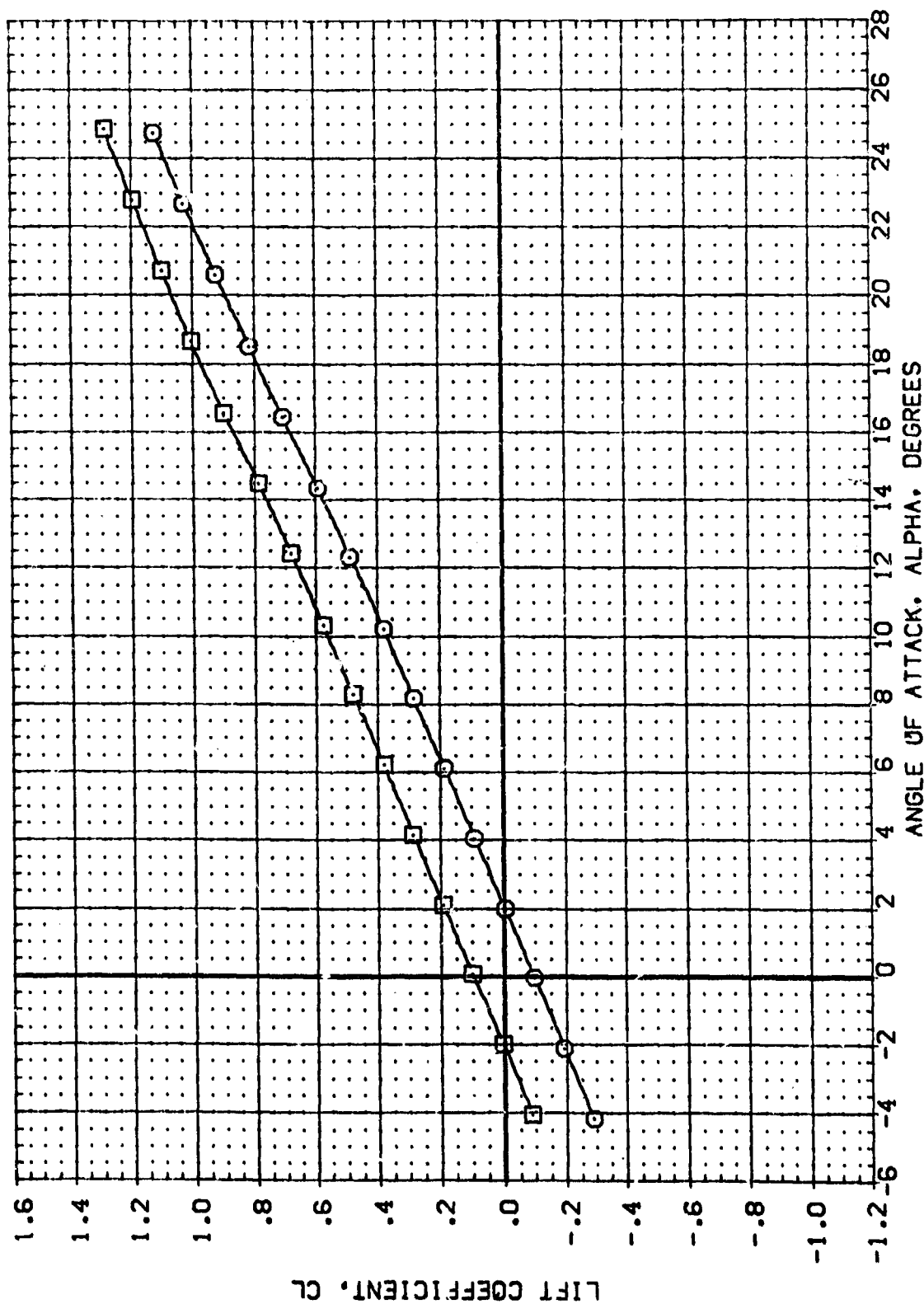
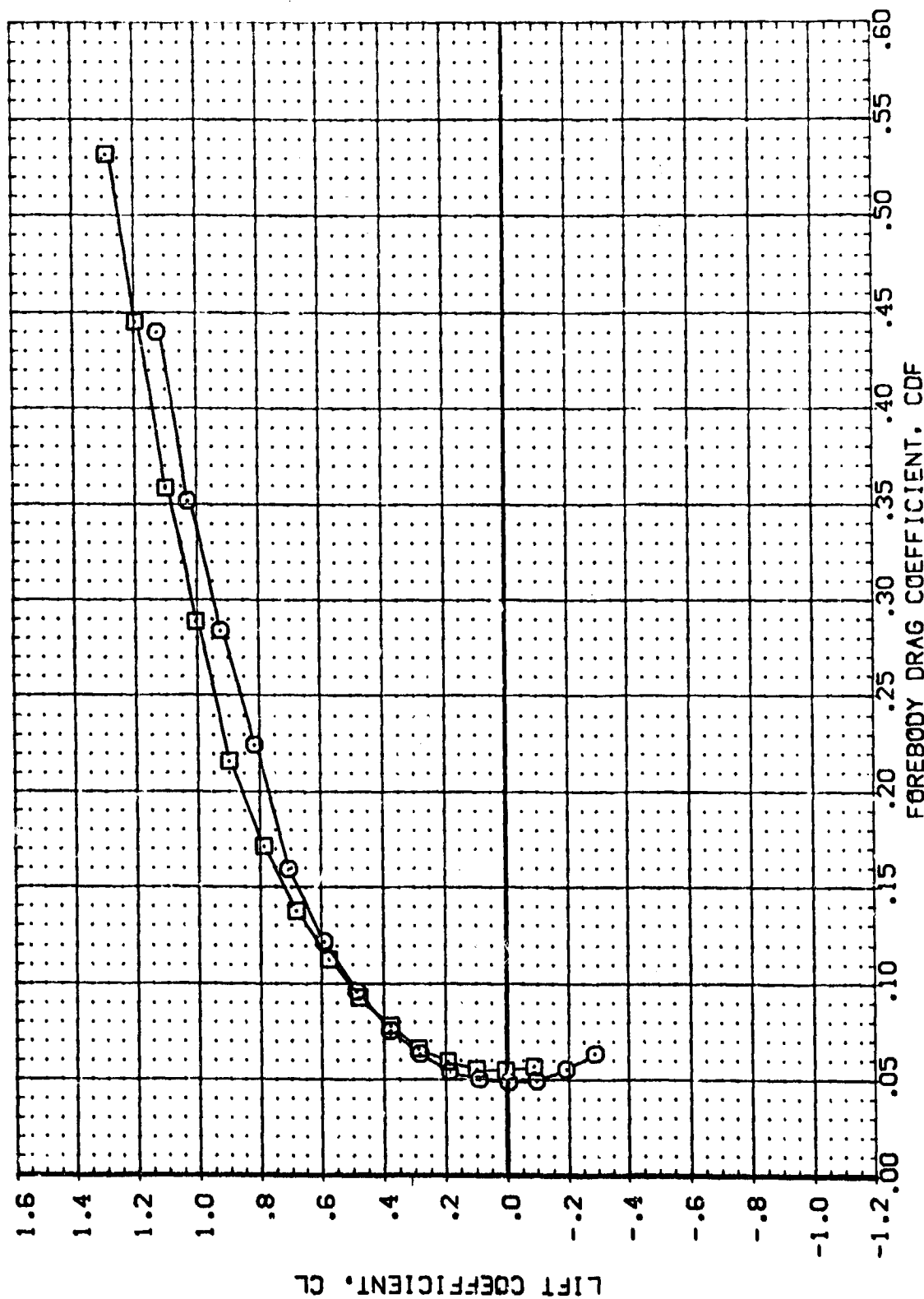


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AIRLON		BD/LAP		SPDRBK		REFERENCE INFORMATION	
(IDP165)	□	0A21	B17C7 H6MFS	V107E23V7R6	X9	.000	.000	-18.000	55.000	SREF	4.4119	50.000	50.000
(IDP169)	○	0A21	B17C7 H6MFS	V107E23V7R6	X9	10.000	.000	-18.000	55.000	LREF	19.2299	100.000	100.000
										BREF	37.9359	100.000	100.000
										XMRP	43.5974	100.000	100.000
										YMRP	.0000	100.000	100.000
										ZMRP	16.2000	100.000	100.000
										SCALE	.0405	100.000	100.000



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
1	100% of the data set
2	100% of the data set
3	100% of the data set
4	100% of the data set
5	100% of the data set
6	100% of the data set
7	100% of the data set
8	100% of the data set
9	100% of the data set
10	100% of the data set
11	100% of the data set
12	100% of the data set
13	100% of the data set
14	100% of the data set
15	100% of the data set
16	100% of the data set
17	100% of the data set
18	100% of the data set
19	100% of the data set
20	100% of the data set
21	100% of the data set
22	100% of the data set
23	100% of the data set
24	100% of the data set
25	100% of the data set
26	100% of the data set
27	100% of the data set
28	100% of the data set
29	100% of the data set
30	100% of the data set
31	100% of the data set
32	100% of the data set
33	100% of the data set
34	100% of the data set
35	100% of the data set
36	100% of the data set
37	100% of the data set
38	100% of the data set
39	100% of the data set
40	100% of the data set
41	100% of the data set
42	100% of the data set
43	100% of the data set
44	100% of the data set
45	100% of the data set
46	100% of the data set
47	100% of the data set
48	100% of the data set
49	100% of the data set
50	100% of the data set
51	100% of the data set
52	100% of the data set
53	100% of the data set
54	100% of the data set
55	100% of the data set
56	100% of the data set
57	100% of the data set
58	100% of the data set
59	100% of the data set
60	100% of the data set
61	100% of the data set
62	100% of the data set
63	100% of the data set
64	100% of the data set
65	100% of the data set
66	100% of the data set
67	100% of the data set
68	100% of the data set
69	100% of the data set
70	100% of the data set
71	100% of the data set
72	100% of the data set
73	100% of the data set
74	100% of the data set
75	100% of the data set
76	100% of the data set
77	100% of the data set
78	100% of the data set
79	100% of the data set
80	100% of the data set
81	100% of the data set
82	100% of the data set
83	100% of the data set
84	100% of the data set
85	100% of the data set
86	100% of the data set
87	100% of the data set
88	100% of the data set
89	100% of the data set
90	100% of the data set
91	100% of the data set
92	100% of the data set
93	100% of the data set
94	100% of the data set
95	100% of the data set
96	100% of the data set
97	100% of the data set
98	100% of the data set
99	100% of the data set
100	100% of the data set

ELEVON	AIRLON	BOFLAP	SPDERK
10.000	.000	-18.000	55.000
		.000	55.000

REFERENCE INFORMATION	
SREF	4.4119 SC.FT.
LREF	19.2399 INCHES
BREF	37.9359 INCHES
XMRP	43.5974 INCHES
YMRP	.0000 INCHES
ZMRP	16.2000 INCHES
SCALE	.0475 SCALE

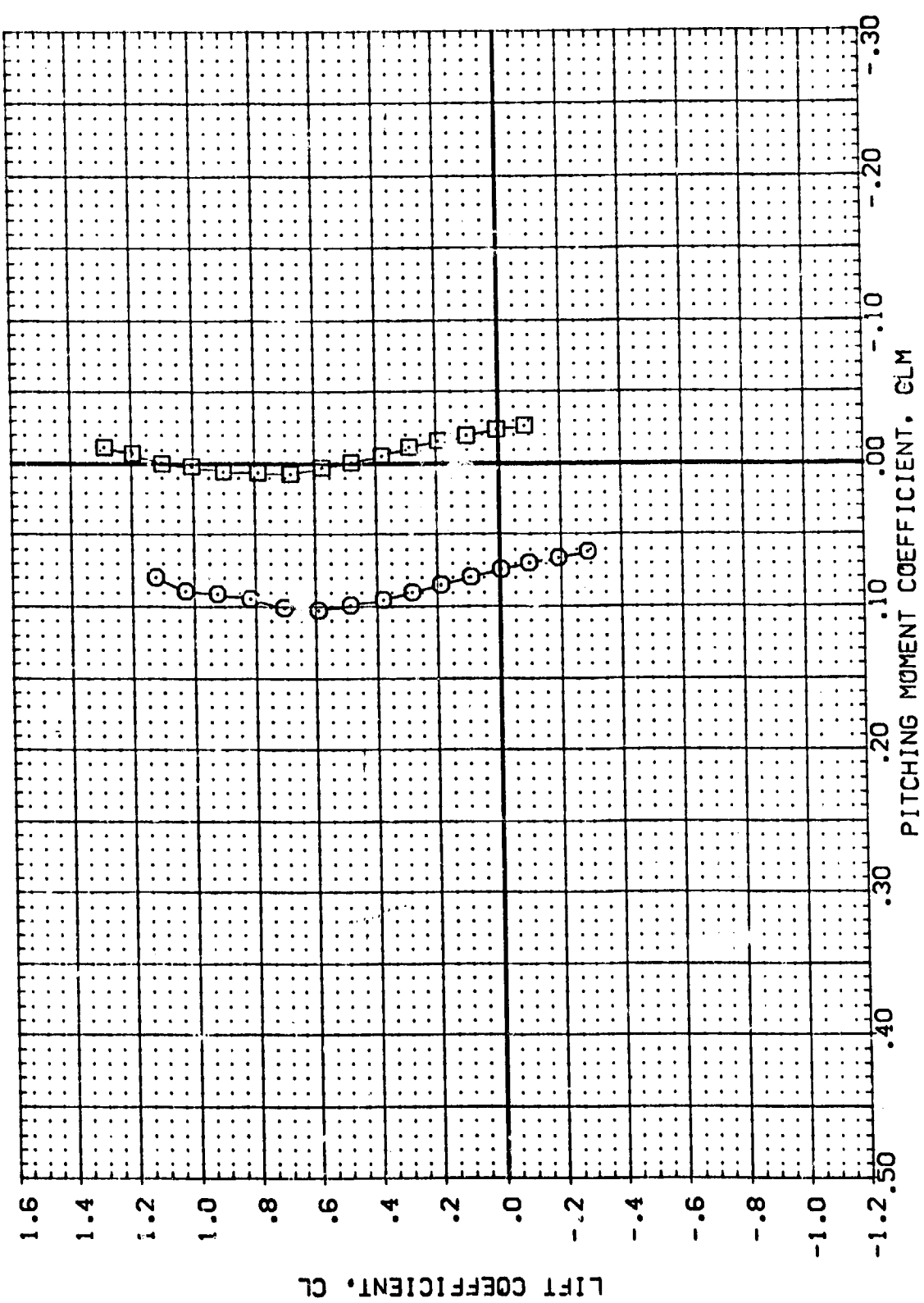
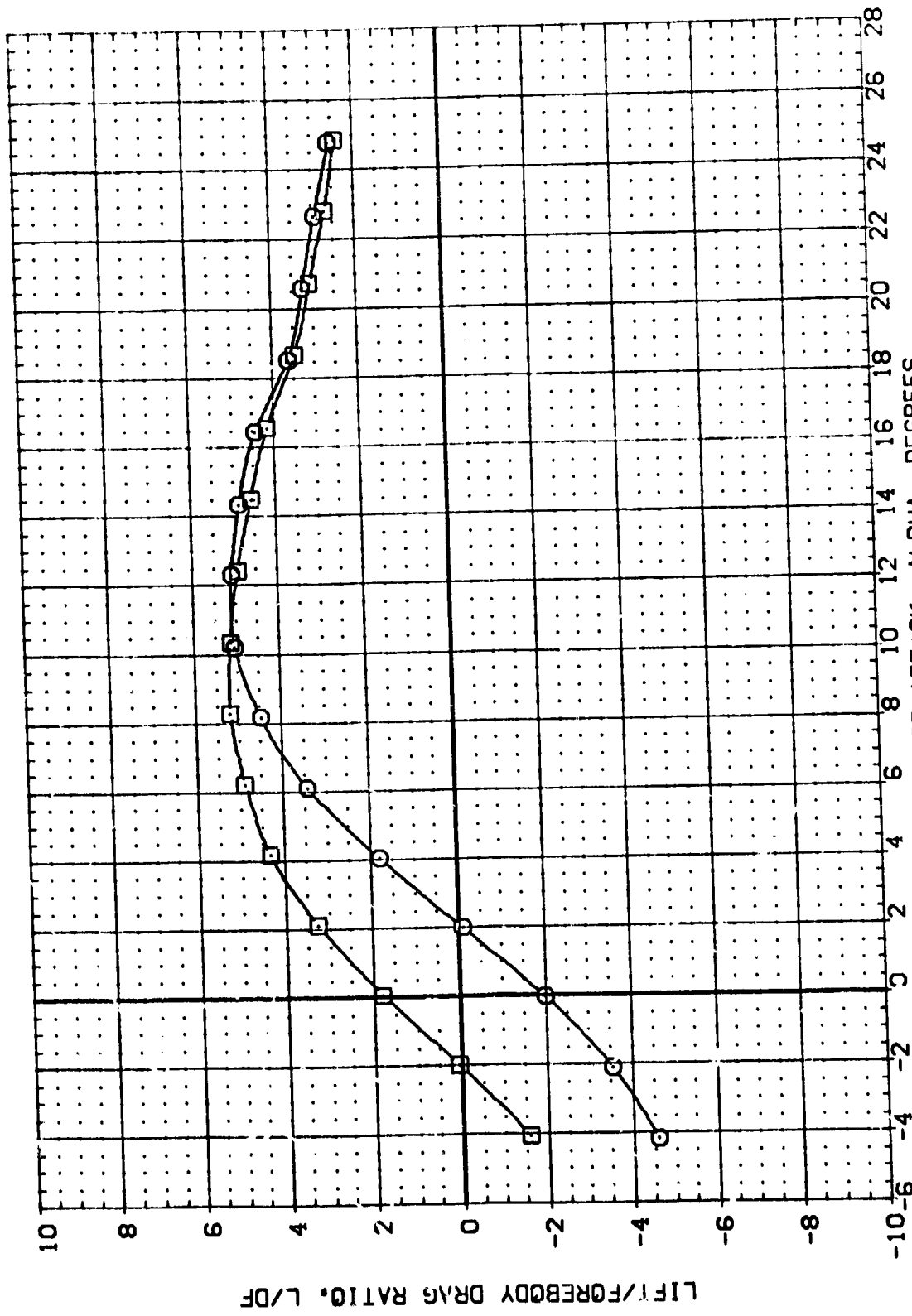


FIGURE 20 ELEVEN EFFECTIVENESS WITH H6 CANARD

**[A]MACH = .16**



ELEVON	10.000	.000	.000	BOLLO	REF	19.7269	4.4119	INGLES
		.000	-18.000		LREF	37.9269	19.7269	SCALE
					XMRP	43.5874	37.9269	SCALE
					YMRP		16.2000	SCALE
					ZMRP		.0400	SCALE

FIGURE 20 ELEVON EFFECTIVENESS WITH H<sub>6</sub> CANARD
$$[A]_{MACH} = .16$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPODBRK	REFERENCE INFORMATION
(IDP:65)	CA2: B17C7 H6M4FS V107E23V7R6 X9	.000	.000	-18.000	55.000	STEF 4.4119 SQ.FT.
(IDP:69)	CA2: B17C7 H6M4FS V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						YMRP 43.5574 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

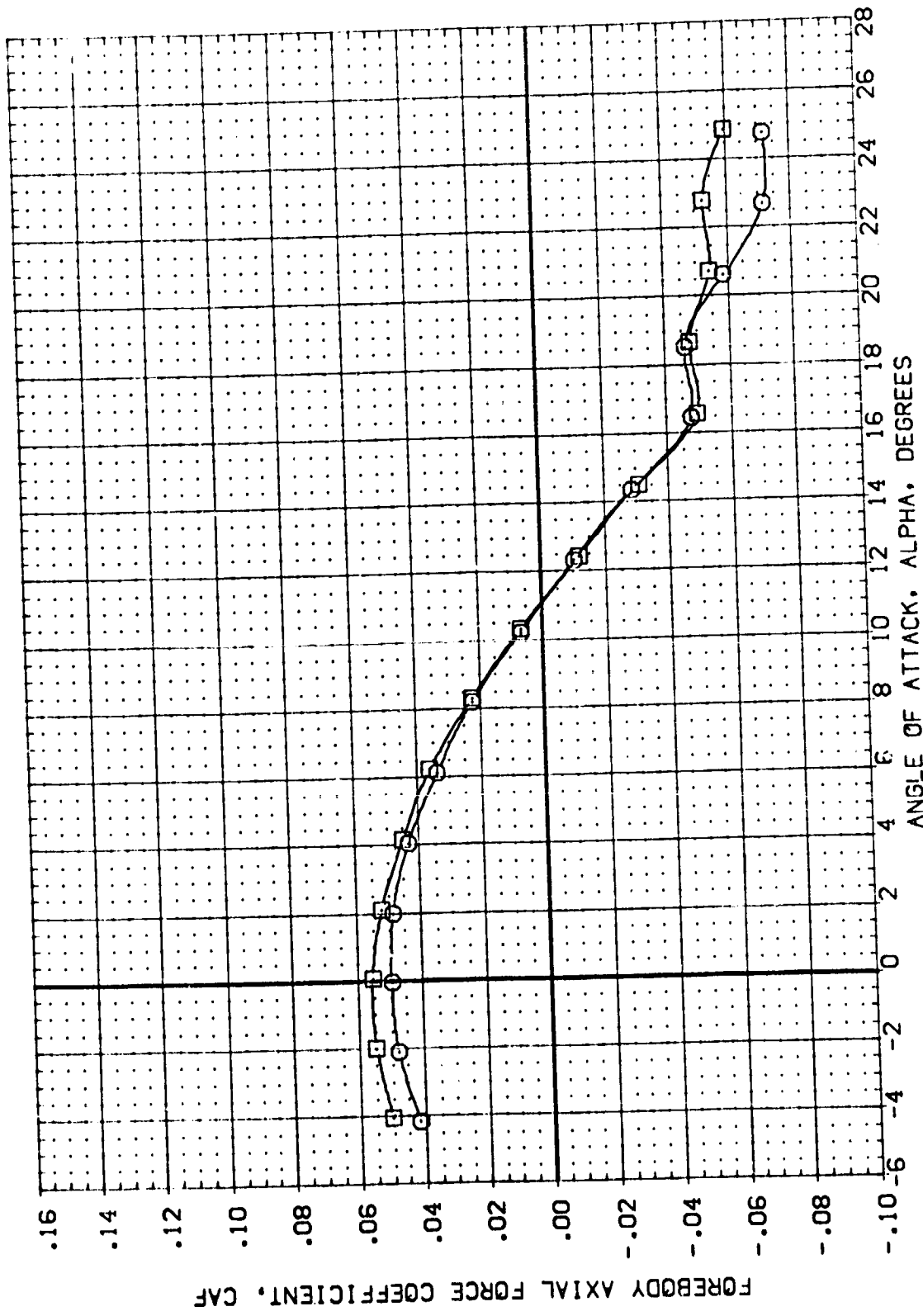


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A) MACH = .16

*Handwritten signature/initials*

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP165) 0A21 B17C7 H6MFS V107E23V7R6 X8  
 (IDP169) 0A21 B17C7 H6MFS V107E23V7R6 X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

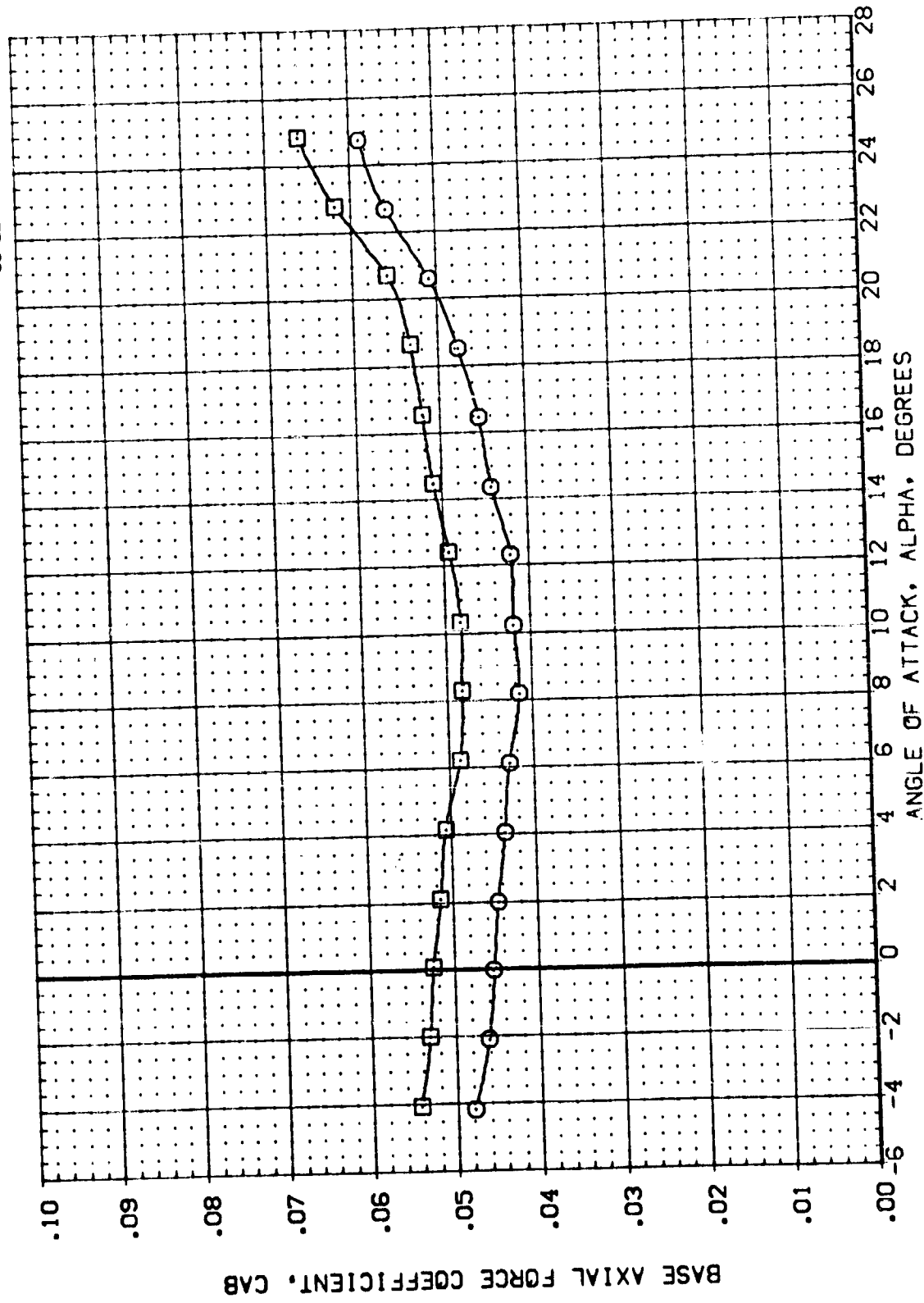


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A)MACH = .16

**CLASSIFICATION DESCRIPTION**

ELEVEN	ALFRED	BUFFET	55.000
10.000	.000	-18.000	55.000
	.000	-18.000	55.000

REFERENCE INFORMATION	
SREF	4.4119 SQ.FT.
LREF	19.2299 INCHES
BREF	37.9363 INCHES
XMRP	43.5974 INCHES
YMRP	.0000 INCHES
ZMRP	16.2000 INCHES
SCALE	.0405 SCALE

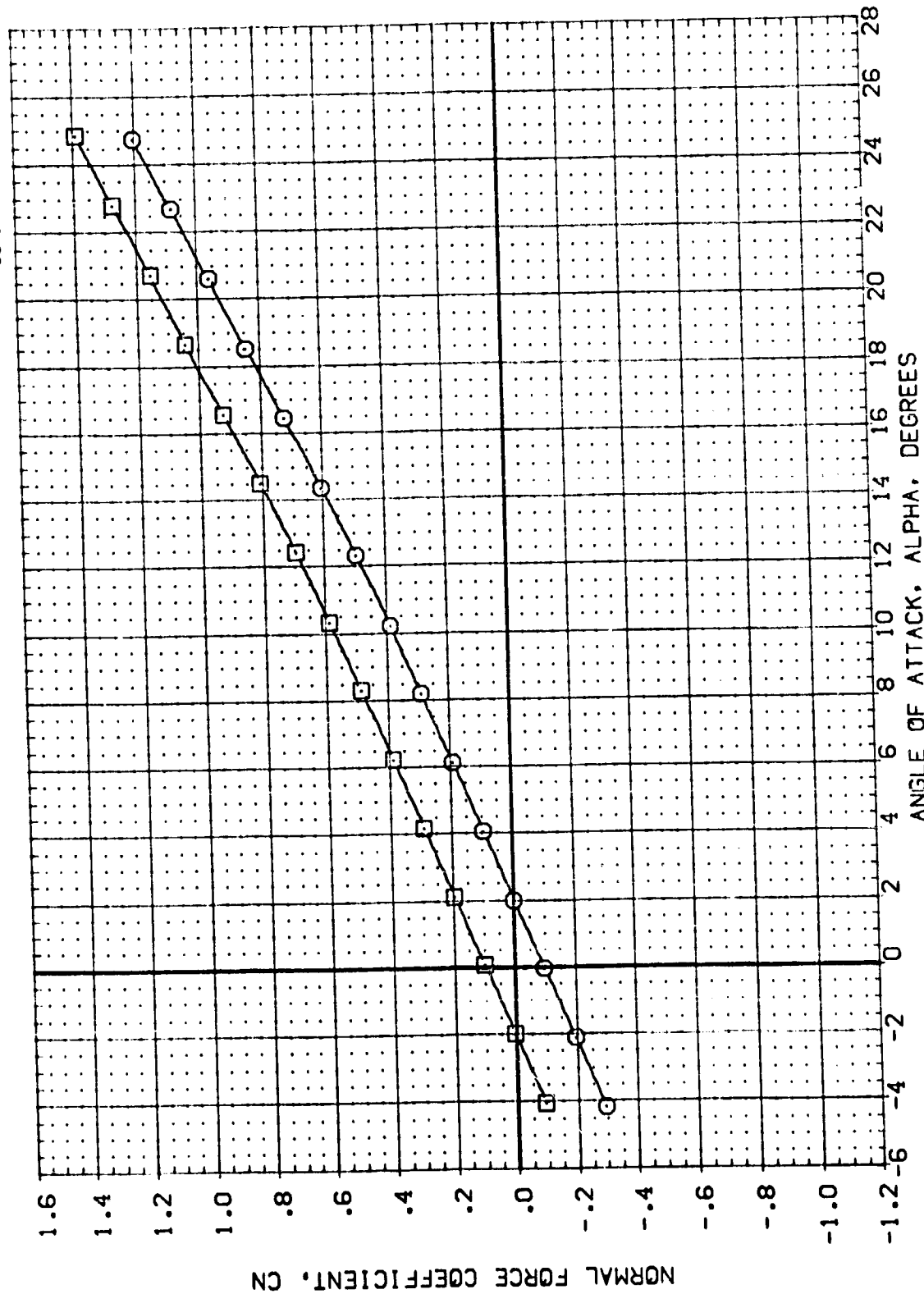


FIGURE 20 FLEVEN EFFECTIVENESS WITH H6 CANARD

CAJMACH  
=

DATA SET SYMB. CONFIGURATION DESCRIPTION X9  
 (10P165) 0A21 B1717 H64F5 VIC7E23V7R6 X9  
 (10P169) 0A21 B1717 H64F5 VIC7E23V7R6 X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

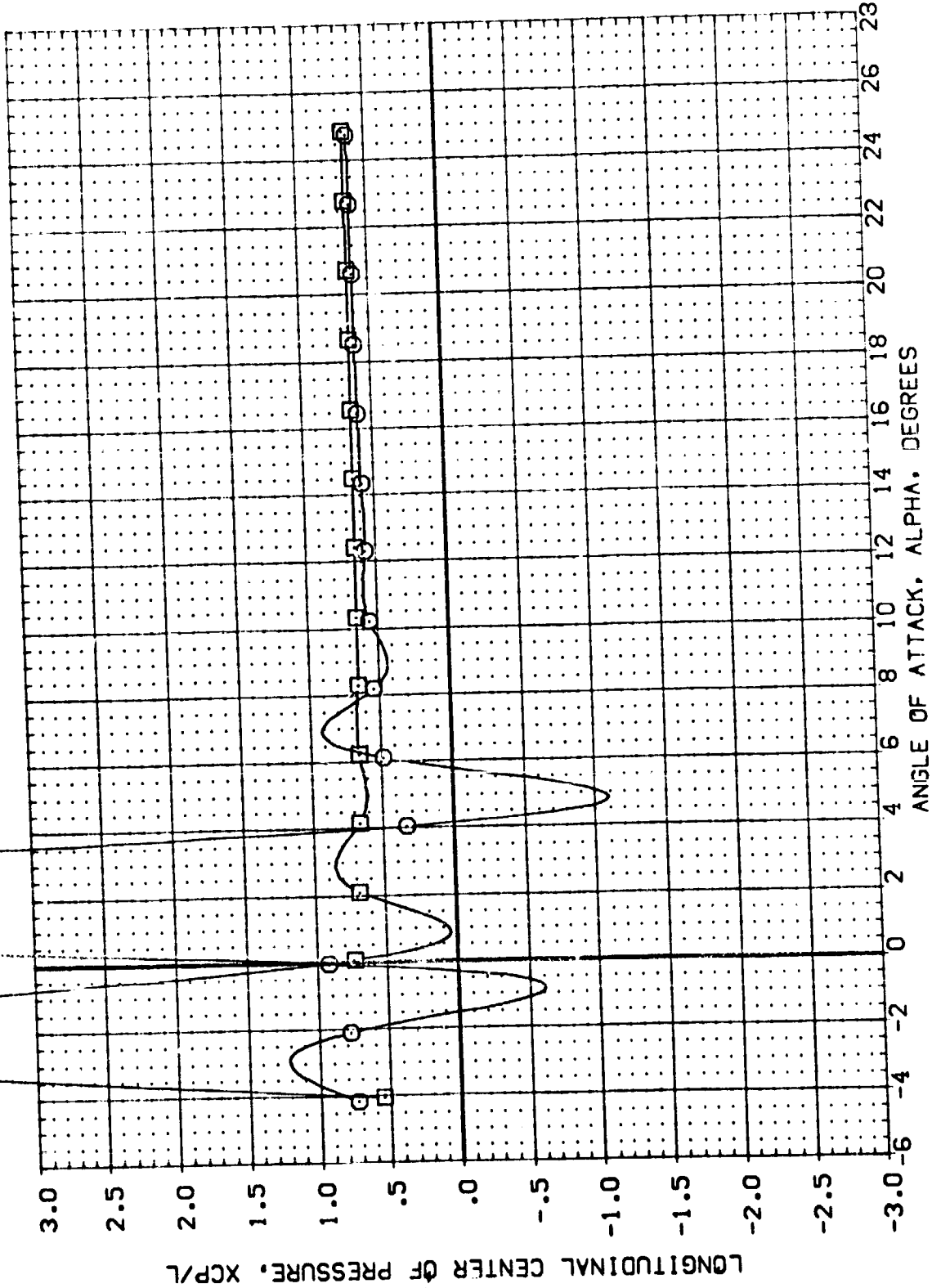


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21  
 CONFIGURATION DESCRIPTION: B17C7 HS4F5 V107E23V7R6 X9  
 B17C7-6 M4F5 V107E23V7R6 X9

ELEVON: 10.000  
 ALLRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

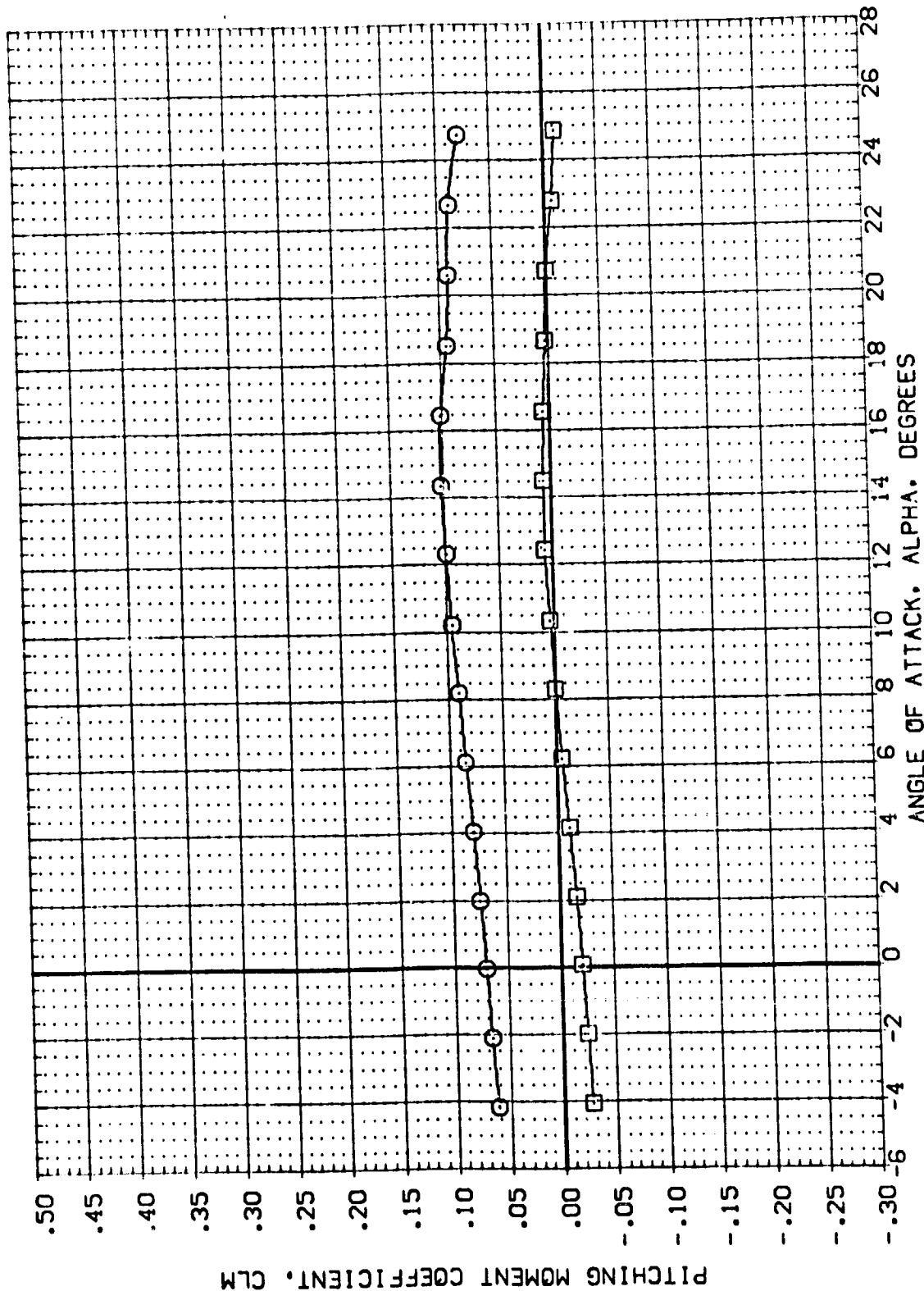


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
(COP169)    O    0A2:    B17C7-6 M4F5    V107E23V7R6    X9

MAXELE    DELELE    BOFLAP    SPOBRK  
10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
SREF    4.4119    SQ.FT.  
LREF    19.2299    INCHES  
BREF    37.9359    INCHES  
XMRP    43.5974    INCHES  
YMRP    .0000    INCHES  
ZMRP    16.2000    INCHES  
SCALE    .0405    INCHES

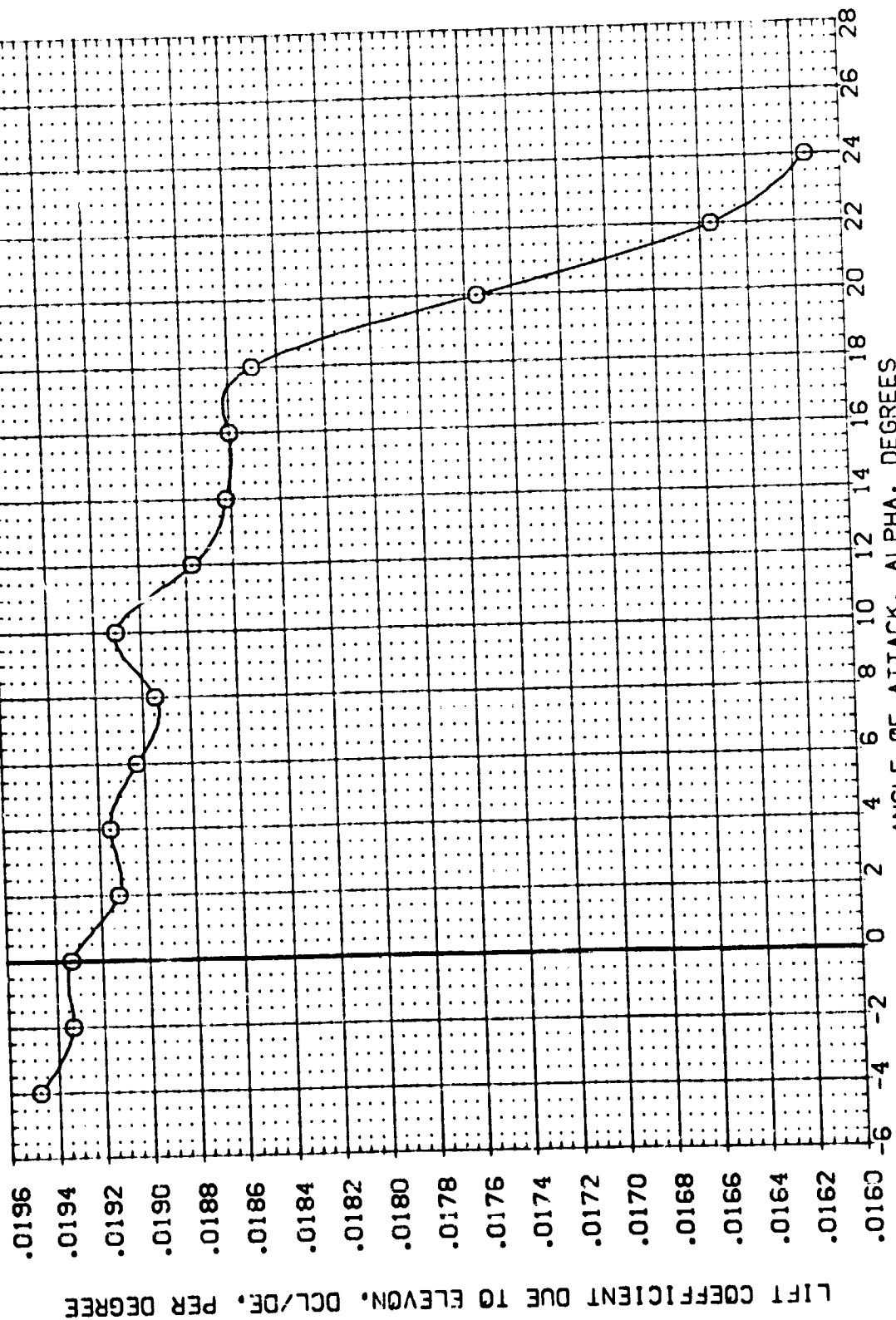


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A)MACH = .16

DATA SET SYMBOL (CDP169) ○

CONFIGURATION DESCRIPTION 0A21 317C7-6 M4F5 V107E23V7R6 X9

MAXELE 10.000

DELELE 0.000

BOFLAP -18.000

SPOBRK 55.000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2299 INCHES

BREF 37.9359 INCHES

XMRP 43.5974 INCHES

YMRP 16.0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405

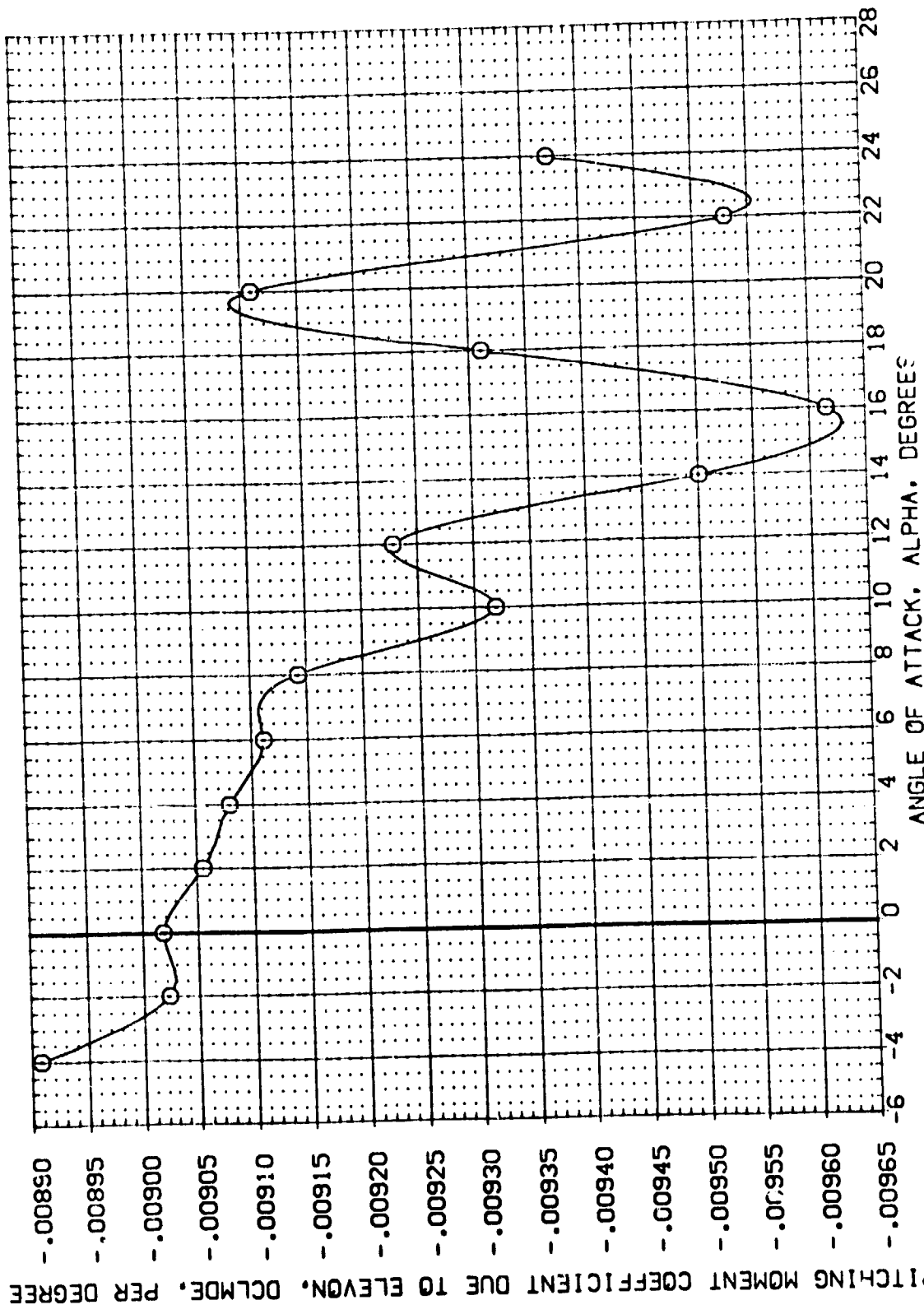


FIGURE 20 ELEVON EFFECTIVENESS WITH H6 CANARD

(A) MACH = .16



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOILER	REFERENCE INFORMATION
(DP152)	0A21 B17C7 M4MFS V107E23V7R6 X9	.000	.000	-18.000	55.000	4.4119 SO.FT.
(DP171)	0A21 B17C7H7 M4MFS V107E23V7R6 X9	10.000	.000	-18.000	55.000	19.2299 INCHES
						37.9359 INCHES
						43.5974 INCHES
						.0000 INCHES
						16.2000 INCHES
						.0405 SCALE

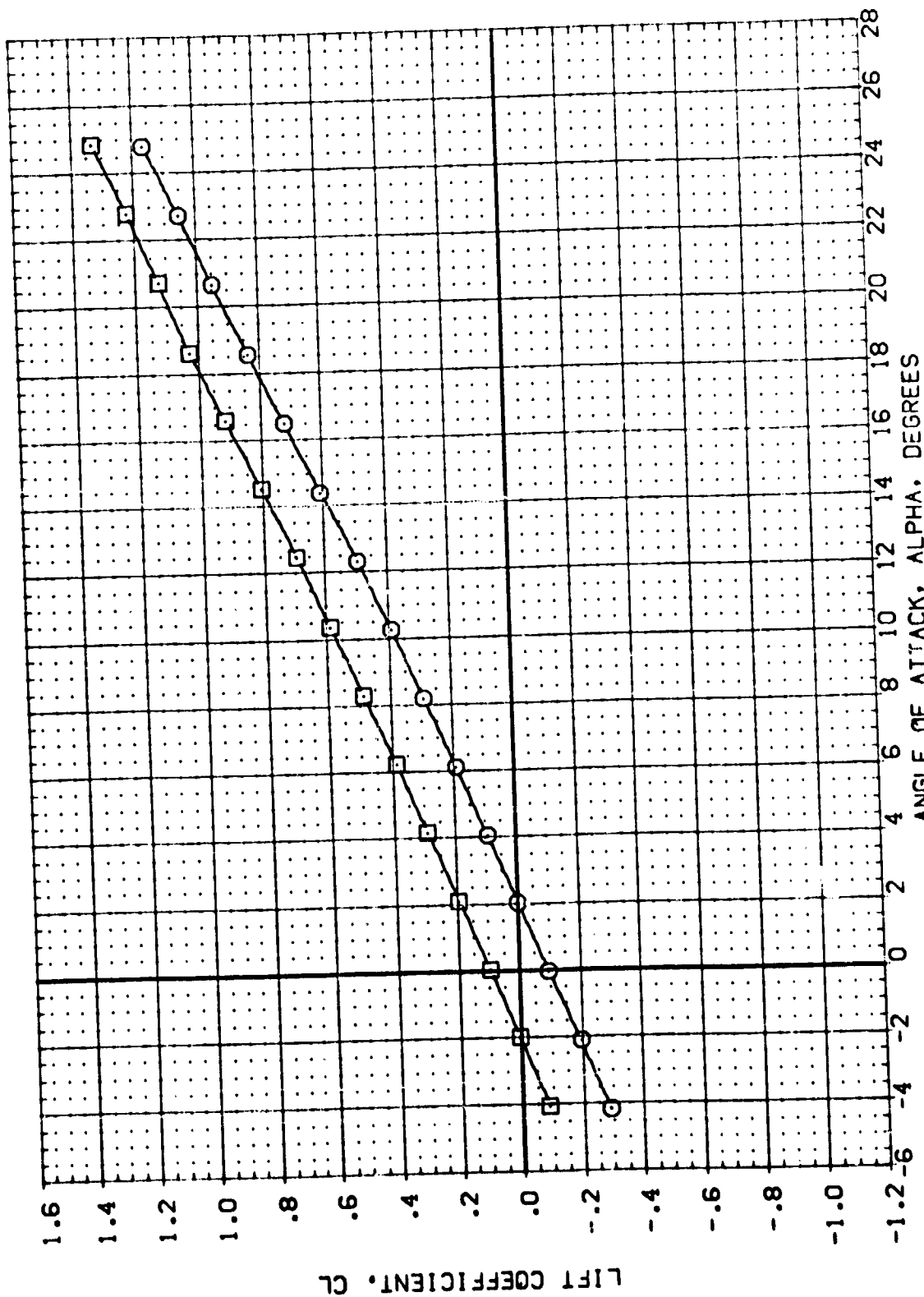


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (ID:62) 8 CA2: 81707 47445 V107E23/7R6 X9  
 (ID:71) 8 CA2: 81707 445 V107E23/7R6 X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SC.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0105 SCALE

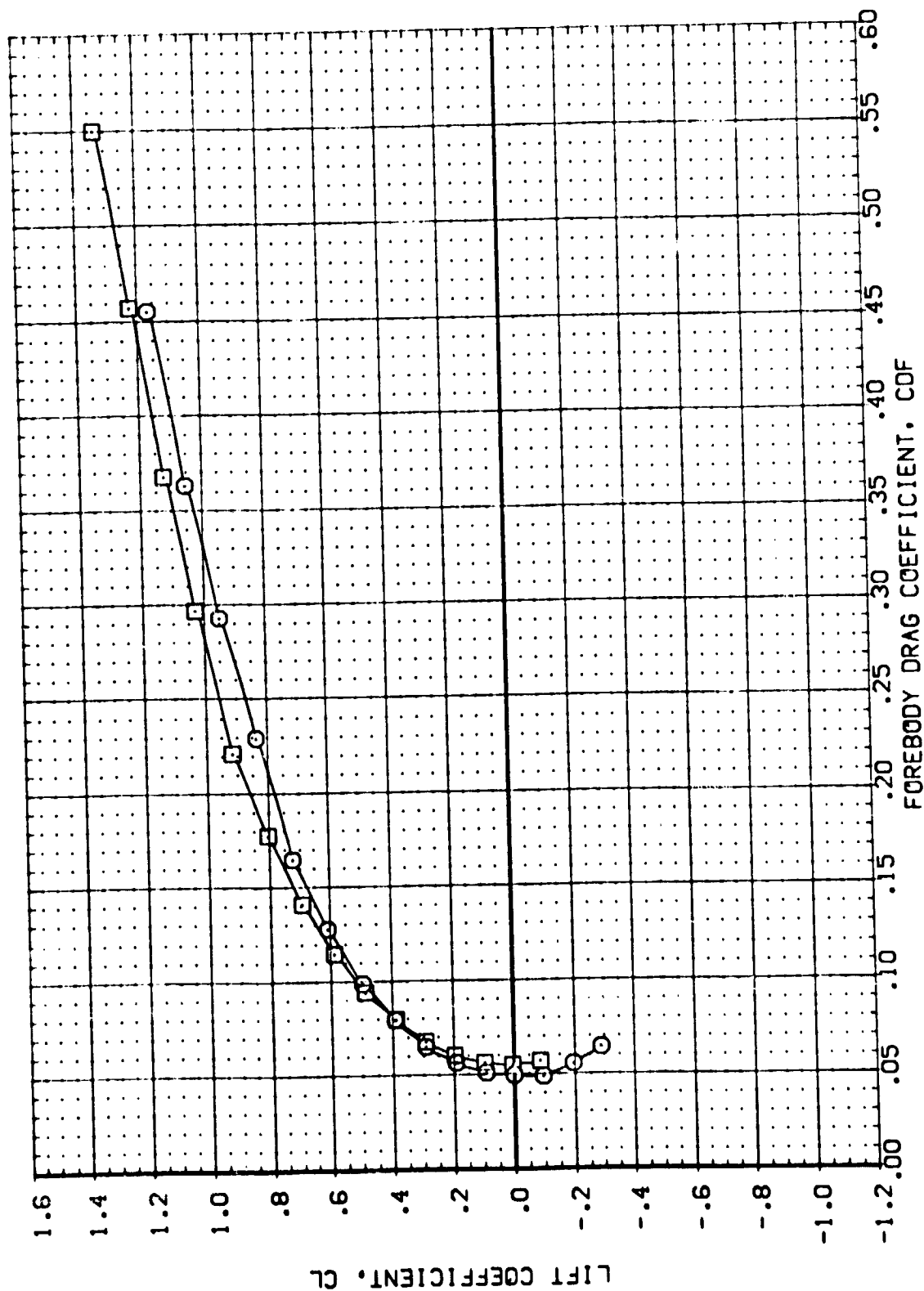


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A) MACH = .16

DATA SET SYMBOL: 0A21 817C7 MAFS V107E23V7R6 XS  
 (DP162) 0A21 817C7 MAFS V107E23V7R6 XS  
 (DP171)

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9553 INCHES  
 XREF 43.9574 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

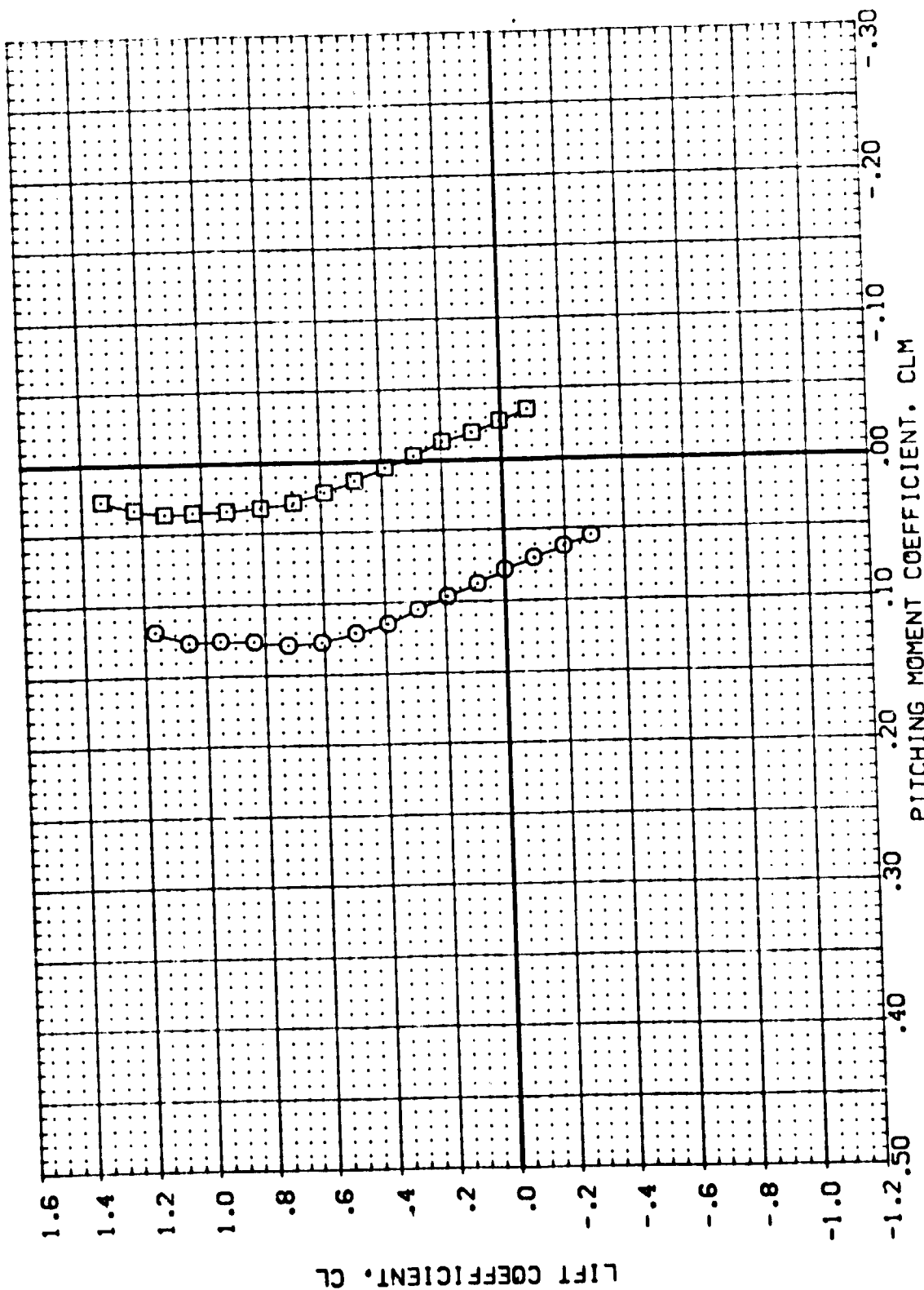


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A) MACH = .16



DATA SET SYMBOL CONFIGURATION DESCRIPTION X9  
 (IDP162) E 0A21 B17C7 MAF5 V107E23V7R6 X9  
 (IDP171) E 0A21 B17C7 MAF5 V107E23V7R6 X9

ELEVON ALLRON BOFLAP SPOBRK  
 .000 .000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SO.FT.  
 LREF 19.2299 INCHES  
 XREF 37.9359 INCHES  
 YREF 43.5974 INCHES  
 ZREF .0000 INCHES  
 SCALE 16.2000 INCHES  
 .0405

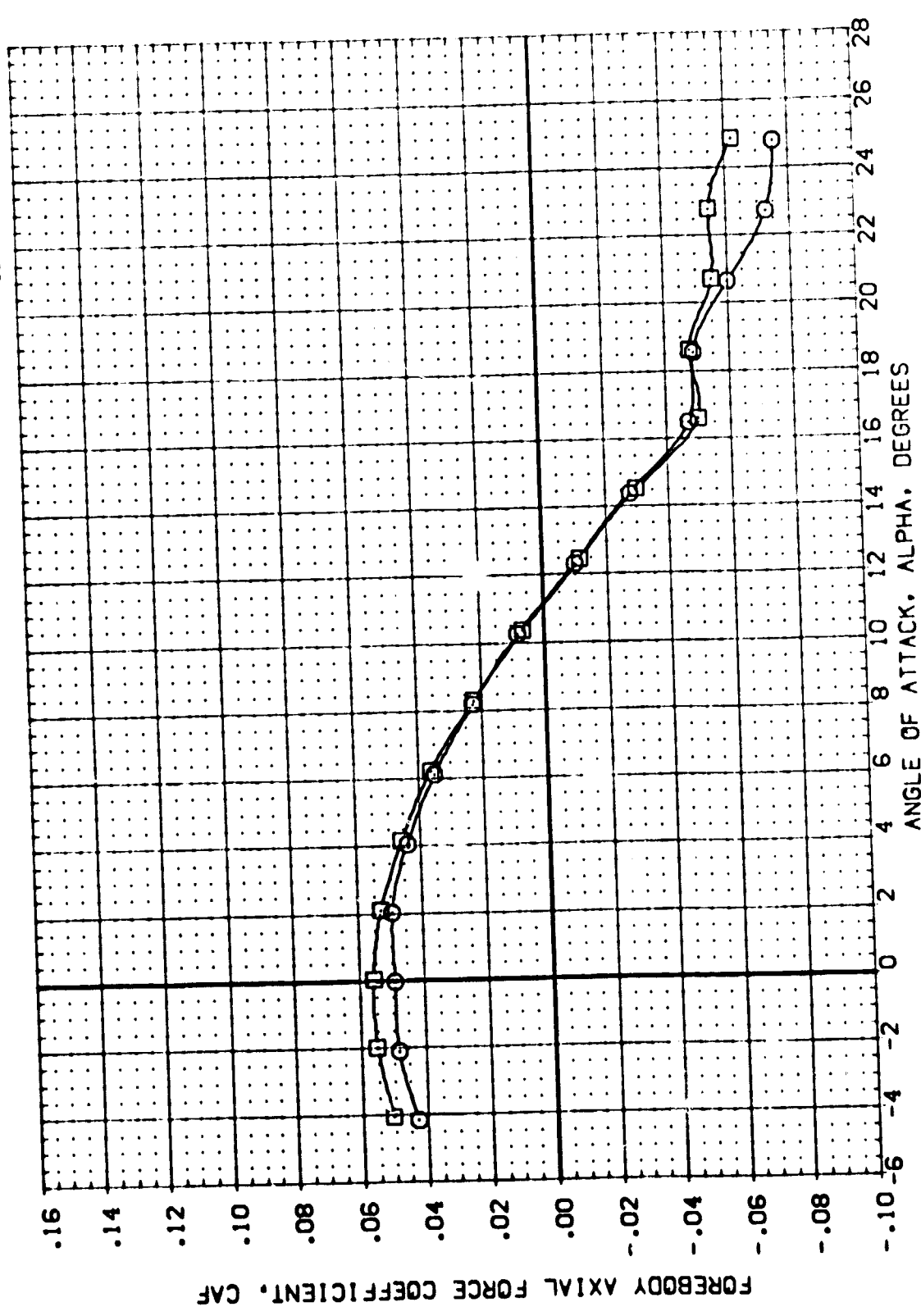


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A) MACH = 0.16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[DP162]	[ ]	BAZ1	B17C7 H4M45	SREF	4.4119
[DP171]	[ ]	BAZ2	B17C7 H4F5	LREF	19.2299
				BREF	37.9359
				XMRD	43.5974
				YMRD	.0000
				ZMRD	16.2000
				SCALE	.0405

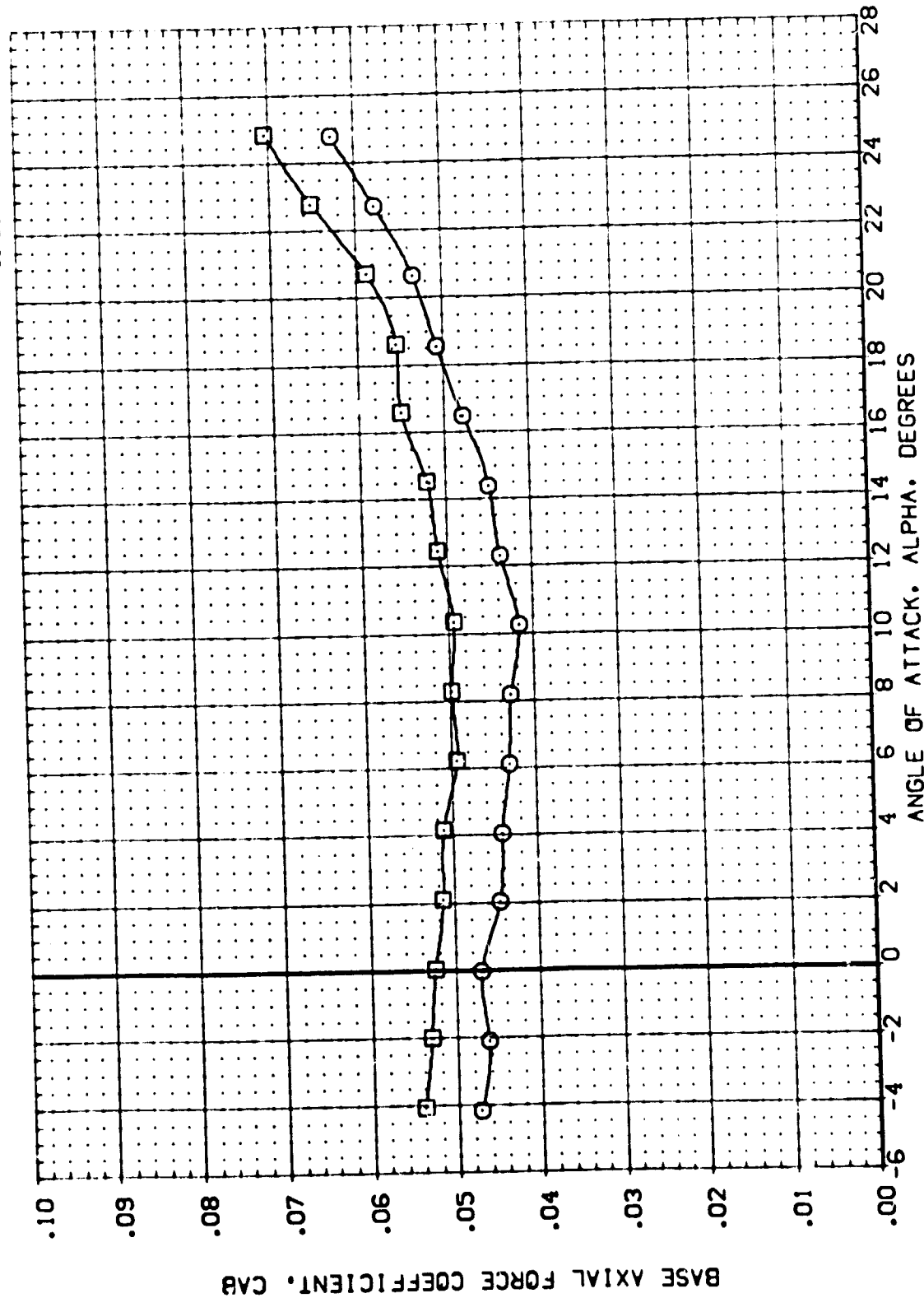


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

[A]MACH = .15

DATA SET SYMBOL: 0A21 817C7 H7M4FS V107E23V7R6 XS  
 (1DP152) 0A21 817C7 H7M4FS V107E23V7R6 XS  
 (1DP171)

ELEVON AILRON BOFLAP SPDBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SO.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

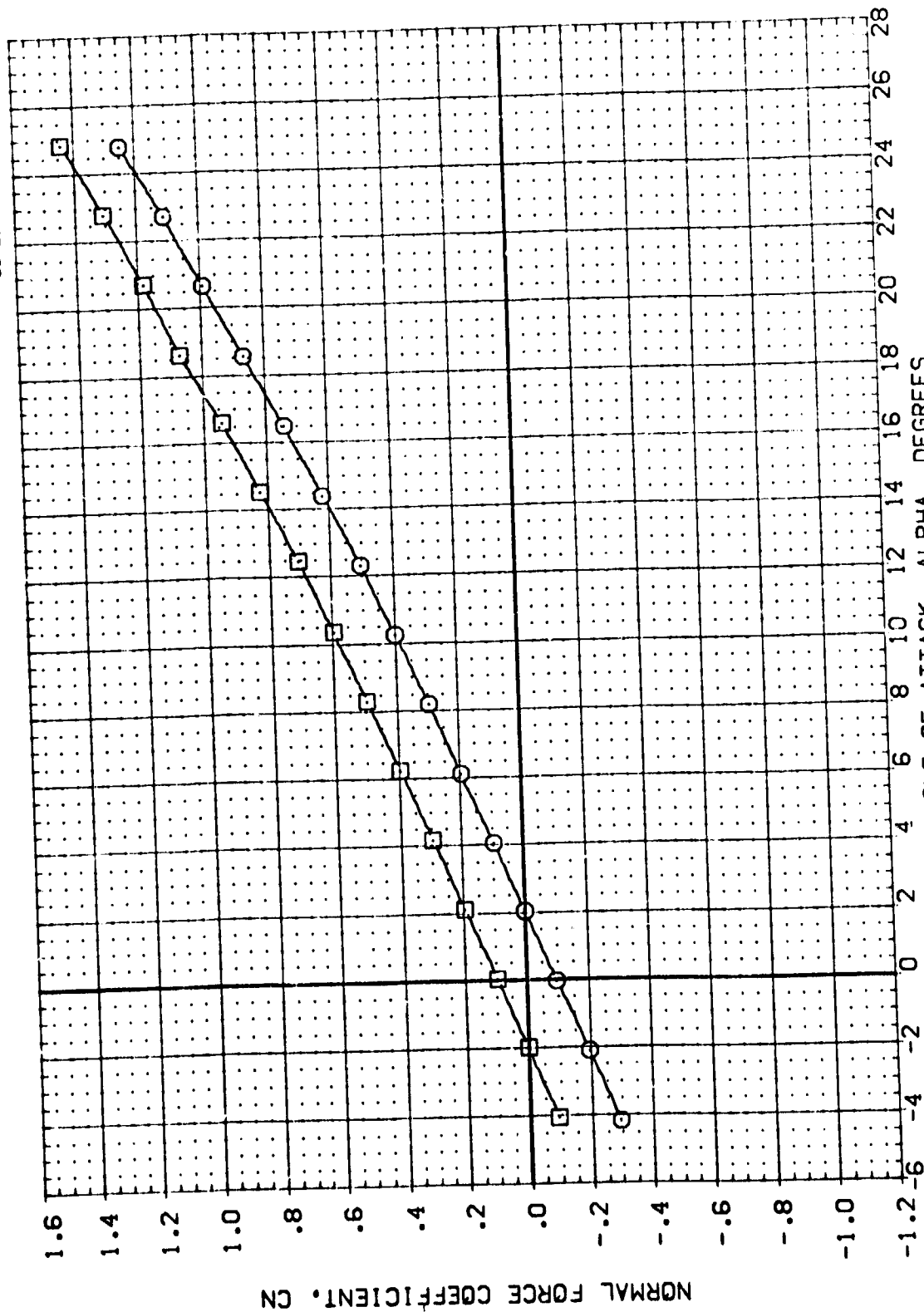


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A)MACH = .16

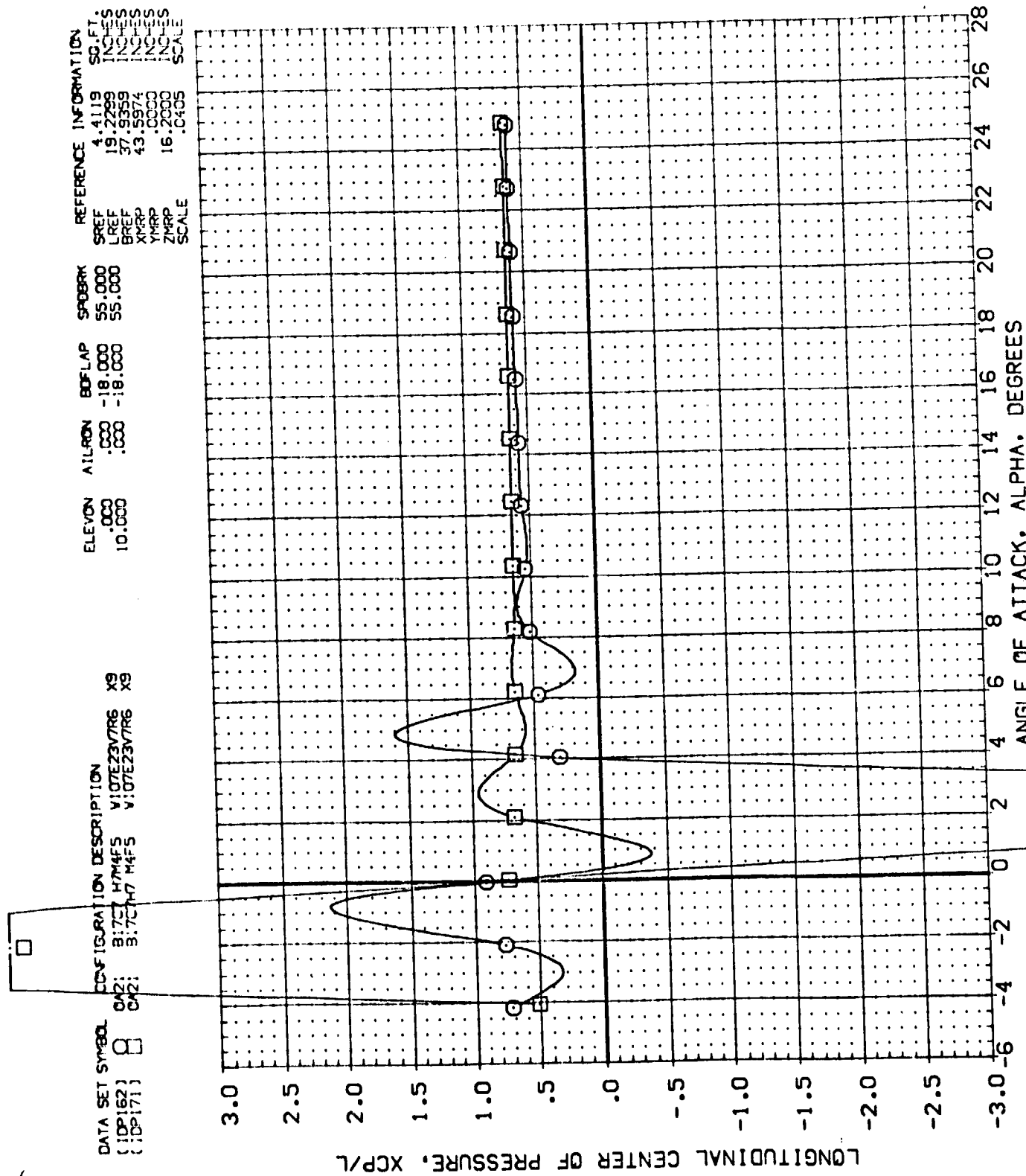


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A)MACH = .16



DATA SET SYMBOL    CONFIGURATION DESCRIPTION    X9  
 (13P162)    0A21    B17C7 H7M4F5    V107E23V7R6    X9  
 (13P171)    0A21    B17C7M7 H4F5    V107E23V7R6    X9

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

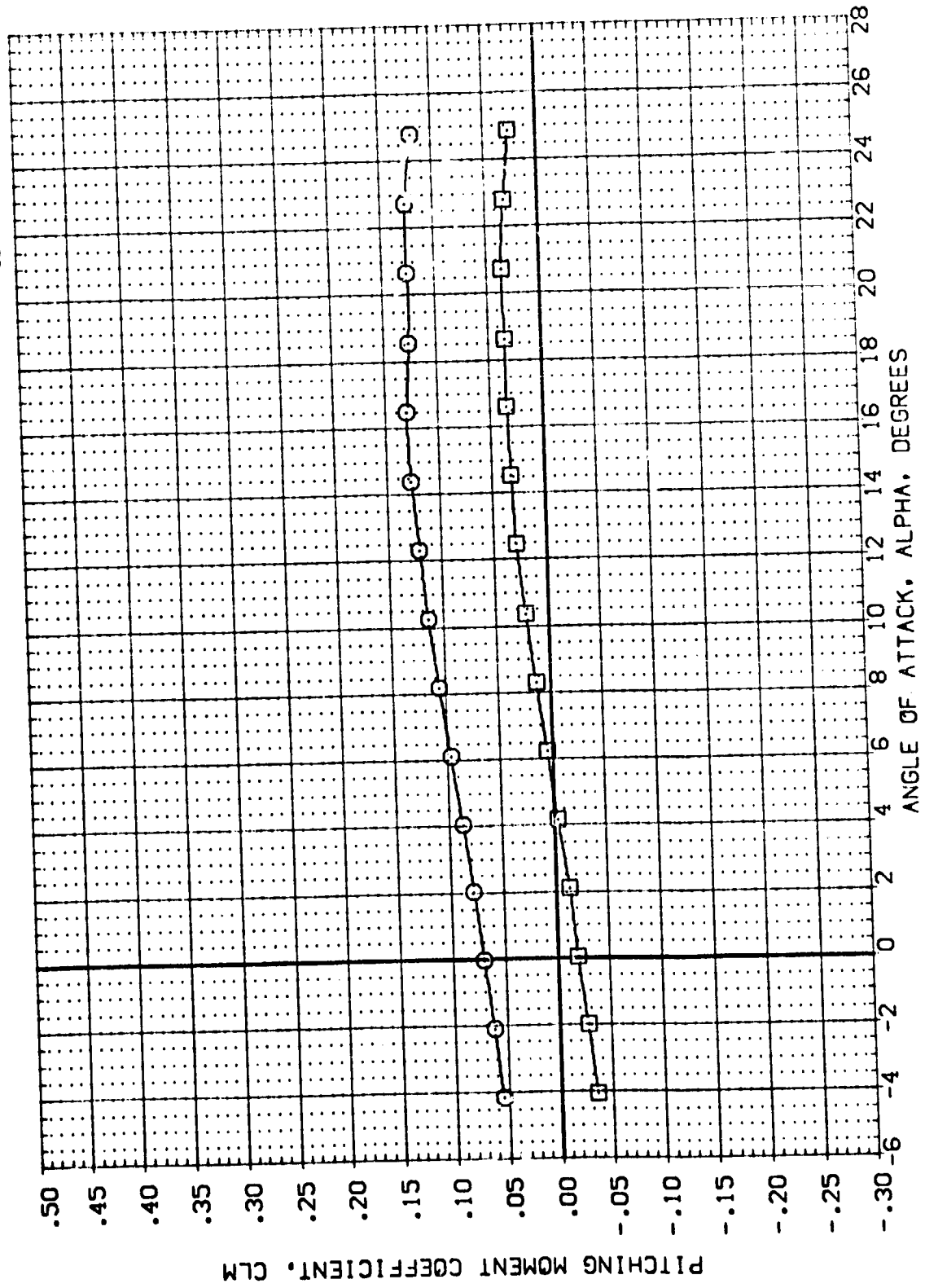


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (00P171)    O    0A21    B17C7H7 M4FS    V107E23V7R6    X9

MAXELE    10.000  
 DELELE    10.000  
 BOFLAP    -18.000  
 SPOBRK    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SO.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    10.0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

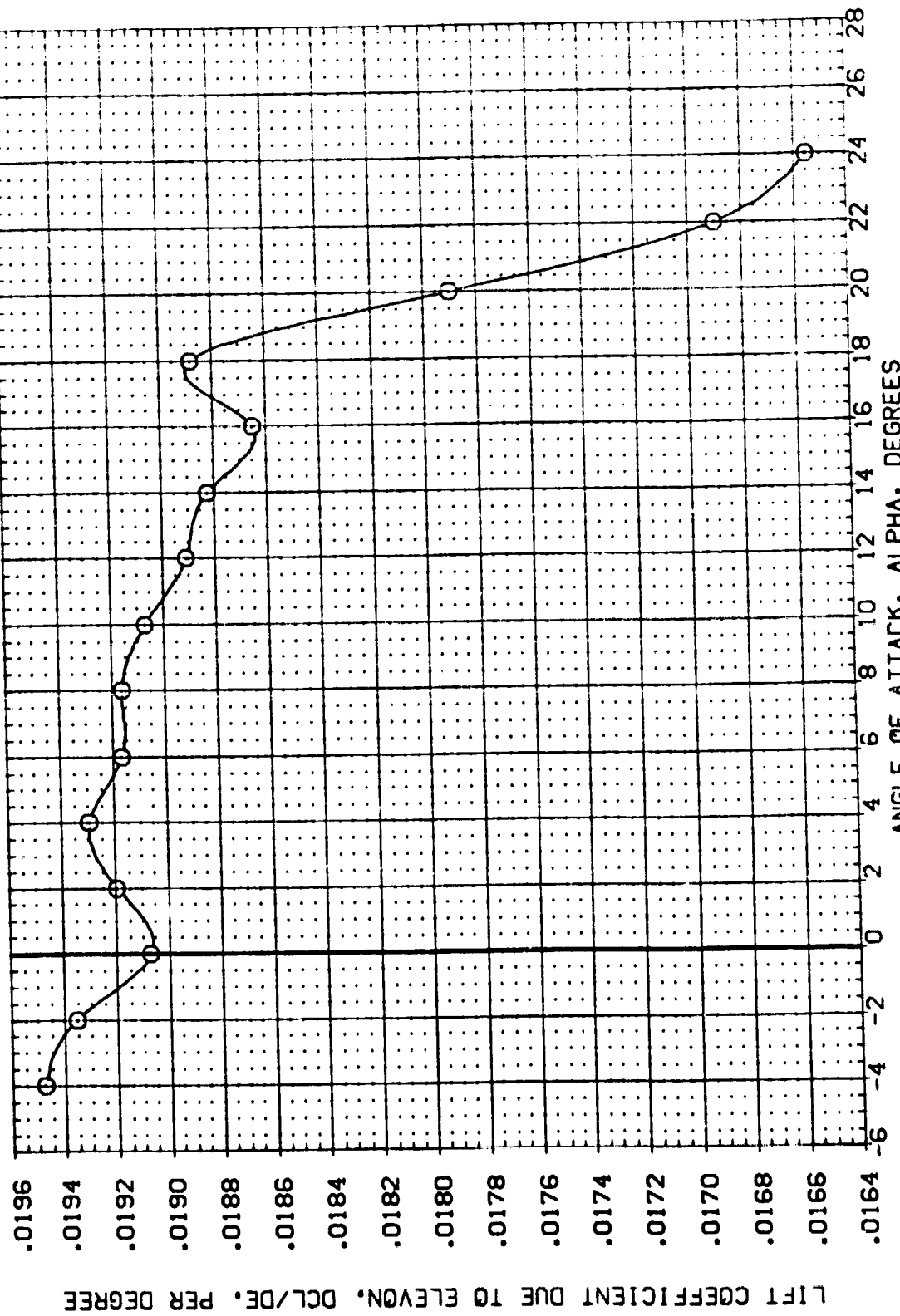


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION    X3  
 (03P171)    O    0A21    817C7-7 MAFS    V107E23V7R6

MAVELE    10.000  
 DELELE    10.000  
 BDFLAP    -18.000  
 SPOBRK    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 HREF    37.9359    INCHES  
 VREF    43.5974    INCHES  
 WREF    00.0000    INCHES  
 ZREF    16.2000    INCHES  
 SCALE    .0405    SCALE

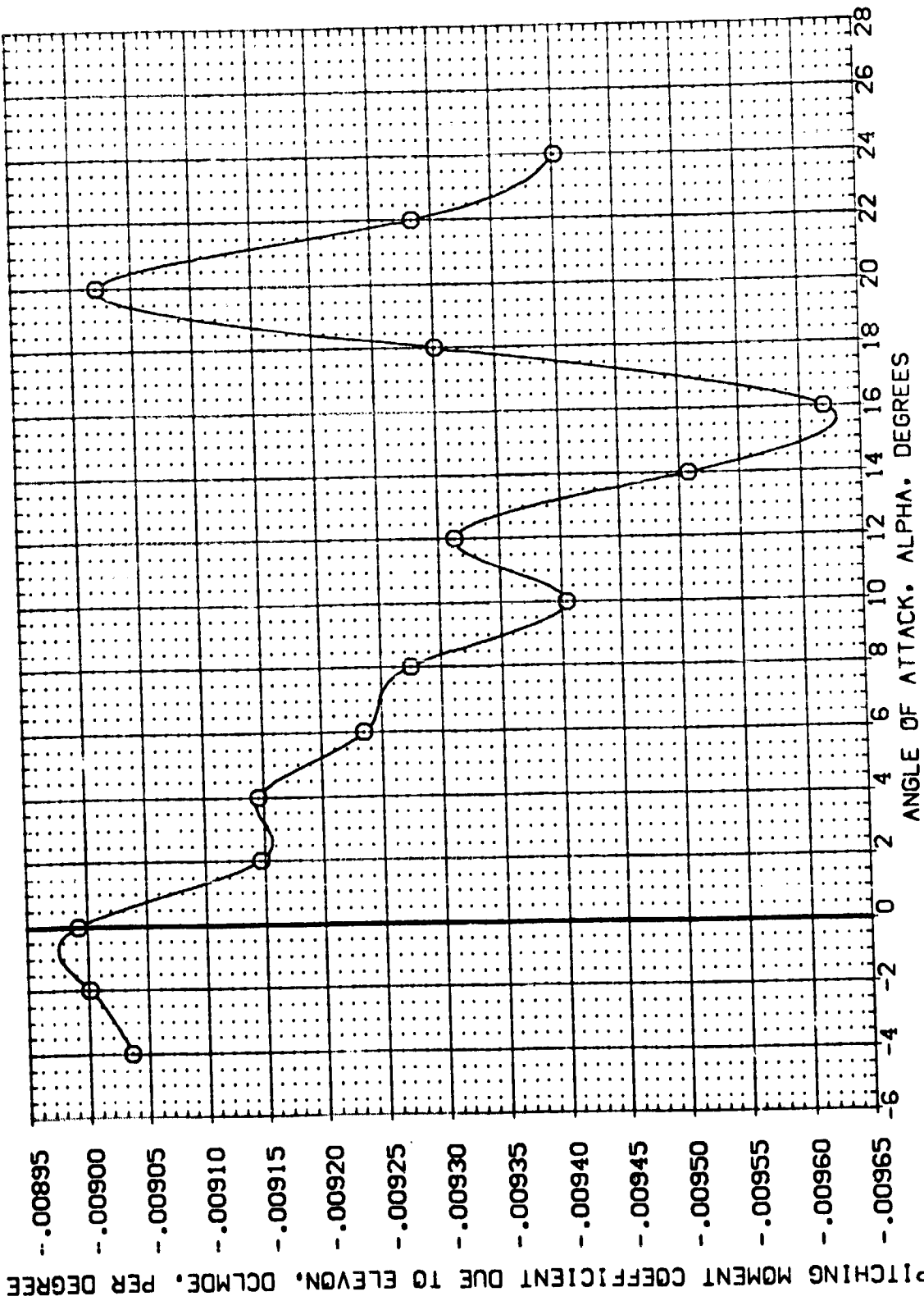


FIGURE 21 ELEVON EFFECTIVENESS WITH H7 CANARD

(A)MACH = .16

	BOFLAP	SPURK	REFERENCE IN GR.	SO. FT.
AIRLON	.000	55.000	4.4119	INCHES
ELEVON	10.000	55.000	19.2289	INCHES
			37.3359	INCHES
			43.5974	INCHES
			.0000	INCHES
			15.2000	INCHES
			SCALE	SCALE
			.0405	

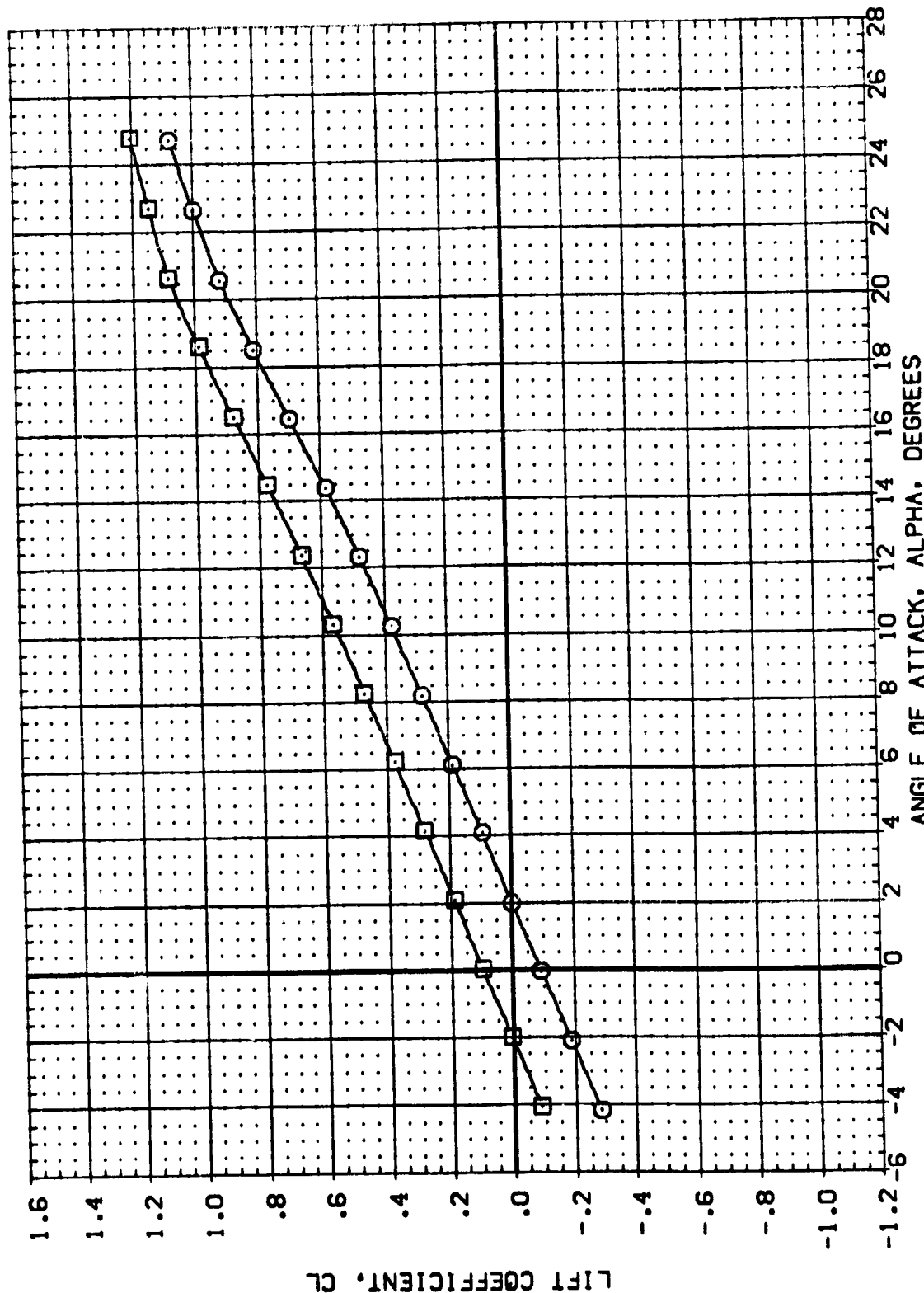


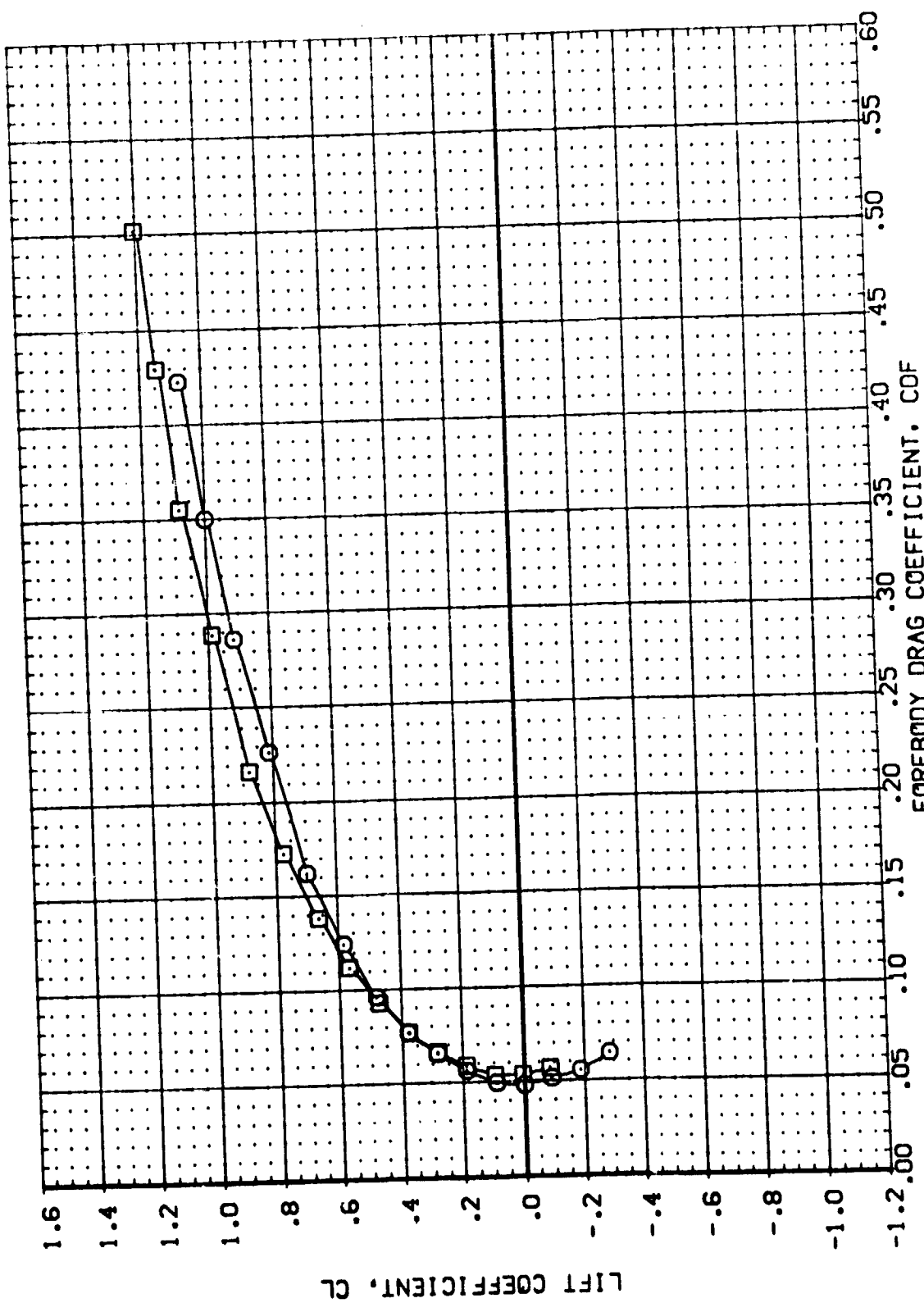
FIGURE 22 FLEVON EFFECTIVENESS WITH H8 CANARD

$$[A]_{MACH} = .16$$

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (DP144)    □    0A21    817C7 H8 M4FS V107E23V7R6X3  
 (DP153)    □    0A21    817C7 H8 M4FS V107E21V7R6X3

ELEVON    AILRON    BODYLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    50. FT.  
 LREF    19.2298    INCHES  
 BRREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    INCHES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ID144) 817C7 H8 MAFS V107E23V7R6X9

(ID153) 817C7 H8 MAFS V107E21V7R6X9

ELEVON AILRON BOFLAP SPOBRK

.000 .000 -18.000 55.000

10.000 .000 -18.000 55.000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2299 INCHES

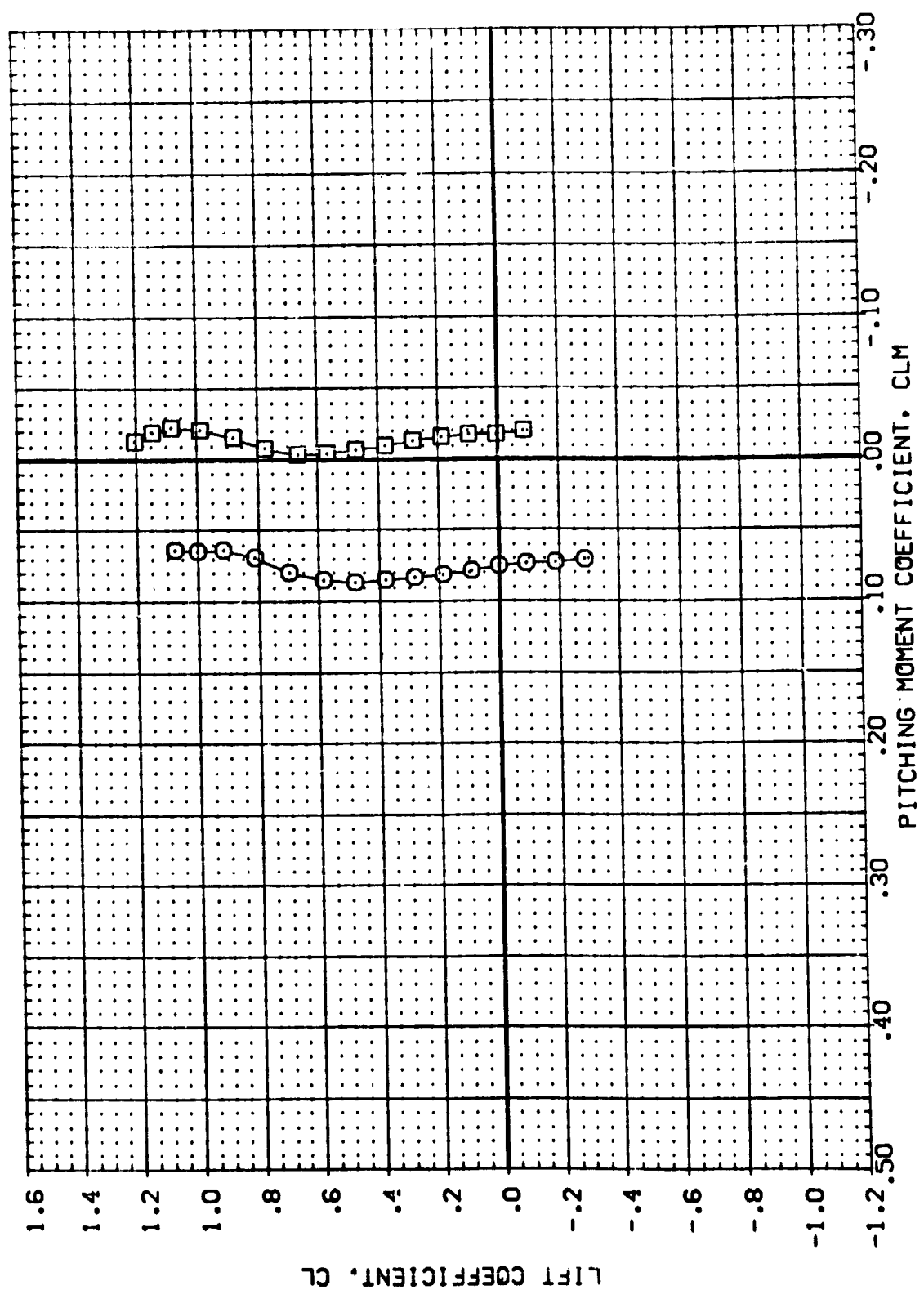
BREF 37.9359 INCHES

YMRP 43.5974 INCHES

ZMRP .0000 INCHES

SCALE 16.2000 INCHES

.0405



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (DP144) 0 0A21 B17C7 H8 MAFS V107E23V765X  
 (DP153) 0 0A21 B17C7 H8 MAFS V107E21V765X

ELEVON AIRLON BOFLAP SPOBRK REFERENCE INFORMATION  
 .000 .000 .000 SREF 4.4119 SQ.FT.  
 10.000 .000 -18.000 LREF 19.2299 INCHES  
 .000 .000 -18.000 BRFP 37.9359 INCHES  
 .000 .000 .000 XMRP 43.5574 INCHES  
 .000 .000 .000 YMRP 16.2000 INCHES  
 .000 .000 .000 ZMRP 16.2000 INCHES  
 SCALE .0405

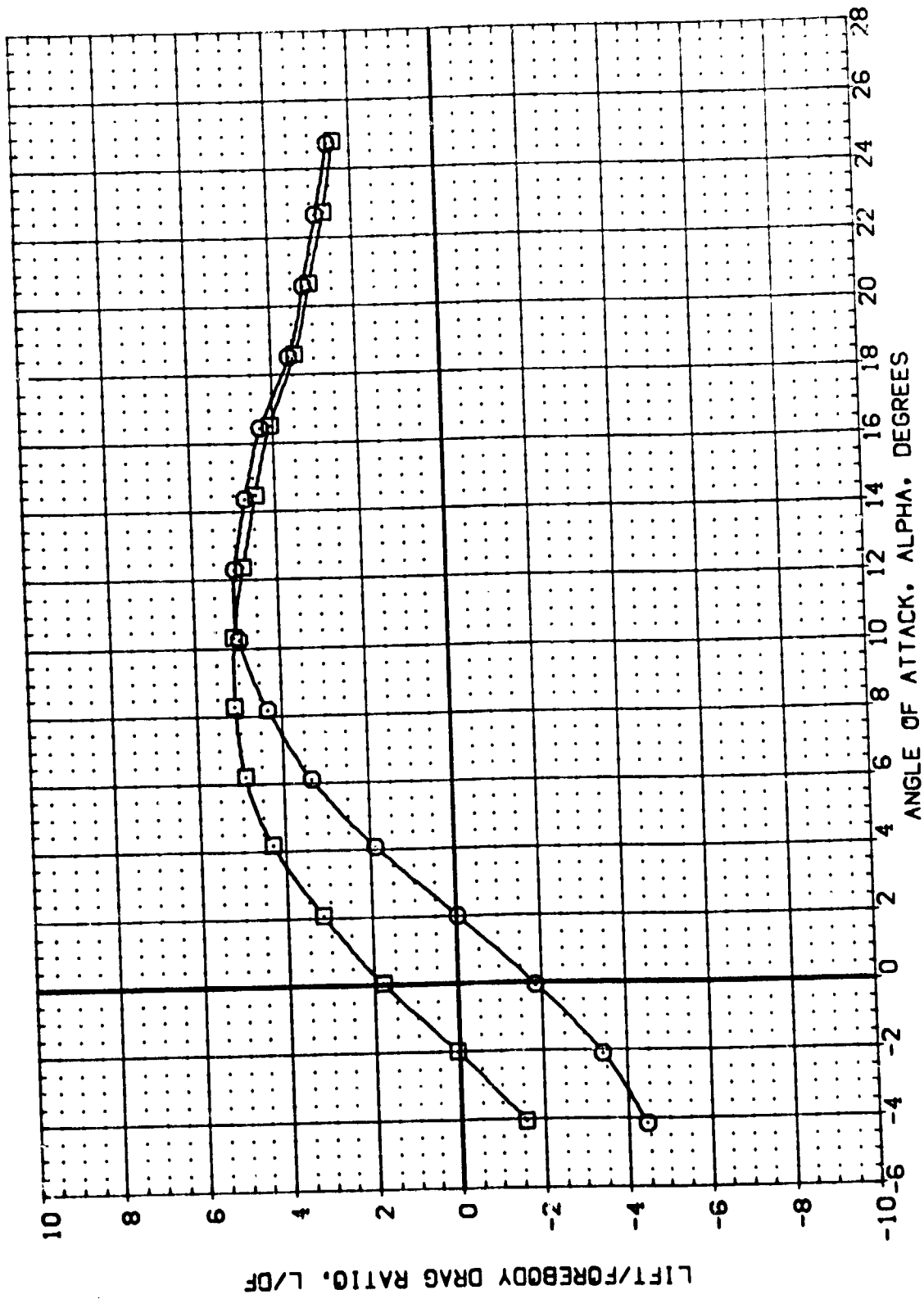


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (IDP145)    □    OA21    817C7 H8 M4FS V107E23V7R6X9  
 (IDP153)    □    OA21    817C7 H8 M4FS V107E21V7R6X9

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    50. FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    INCHES

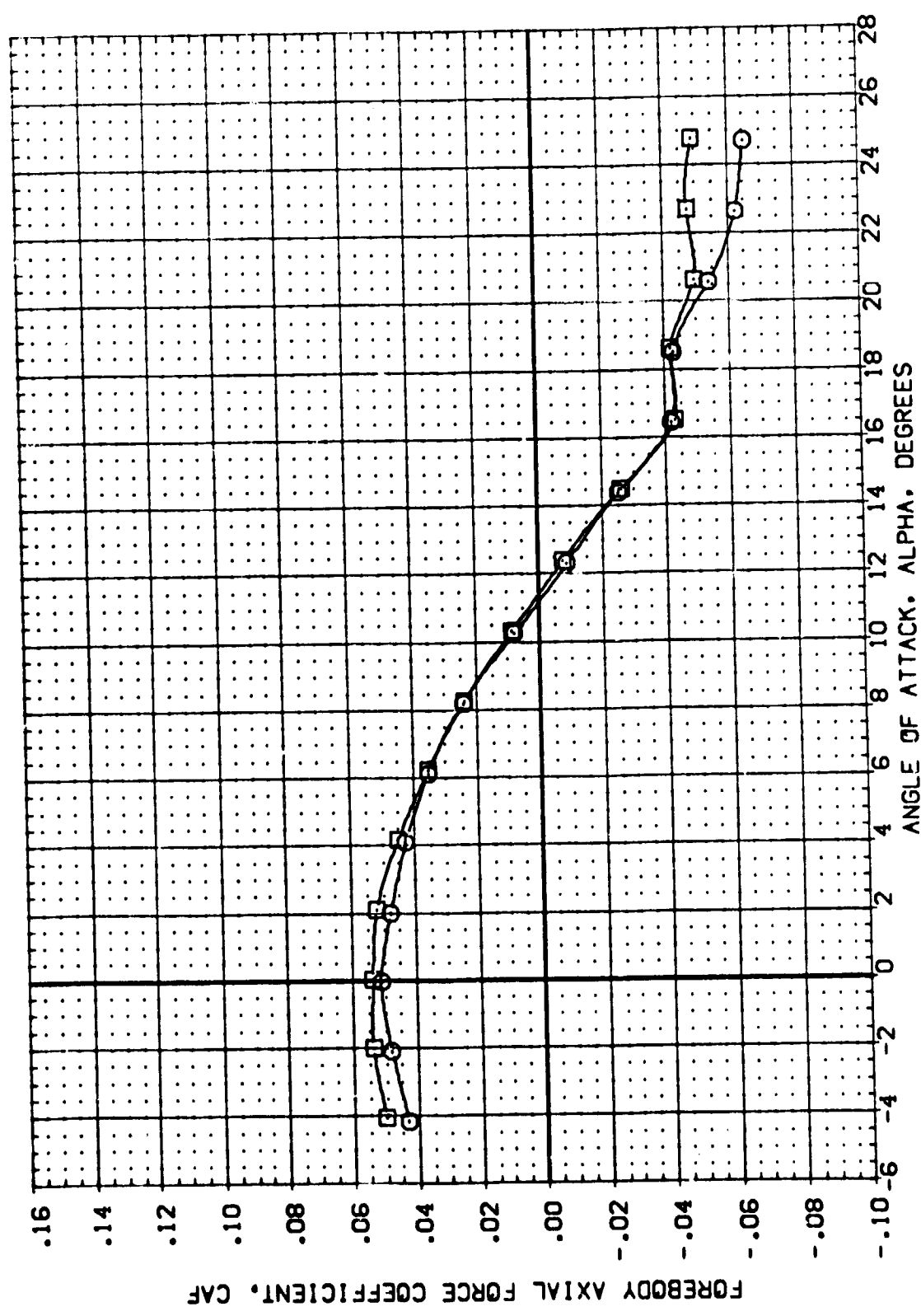


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

(A)MACH = .16



1. SE SYMBOL 0A21 817C7 H8 MAF'S V107E21V7MS13  
 2. 44: 0A21 817C7 H8 MAF'S V107E21V7MS13  
 3. 53:

ELEVON AILRON BOFLAP SPDRBK  
 .000 .000 55.000  
 10.000 .000 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP 16.2000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

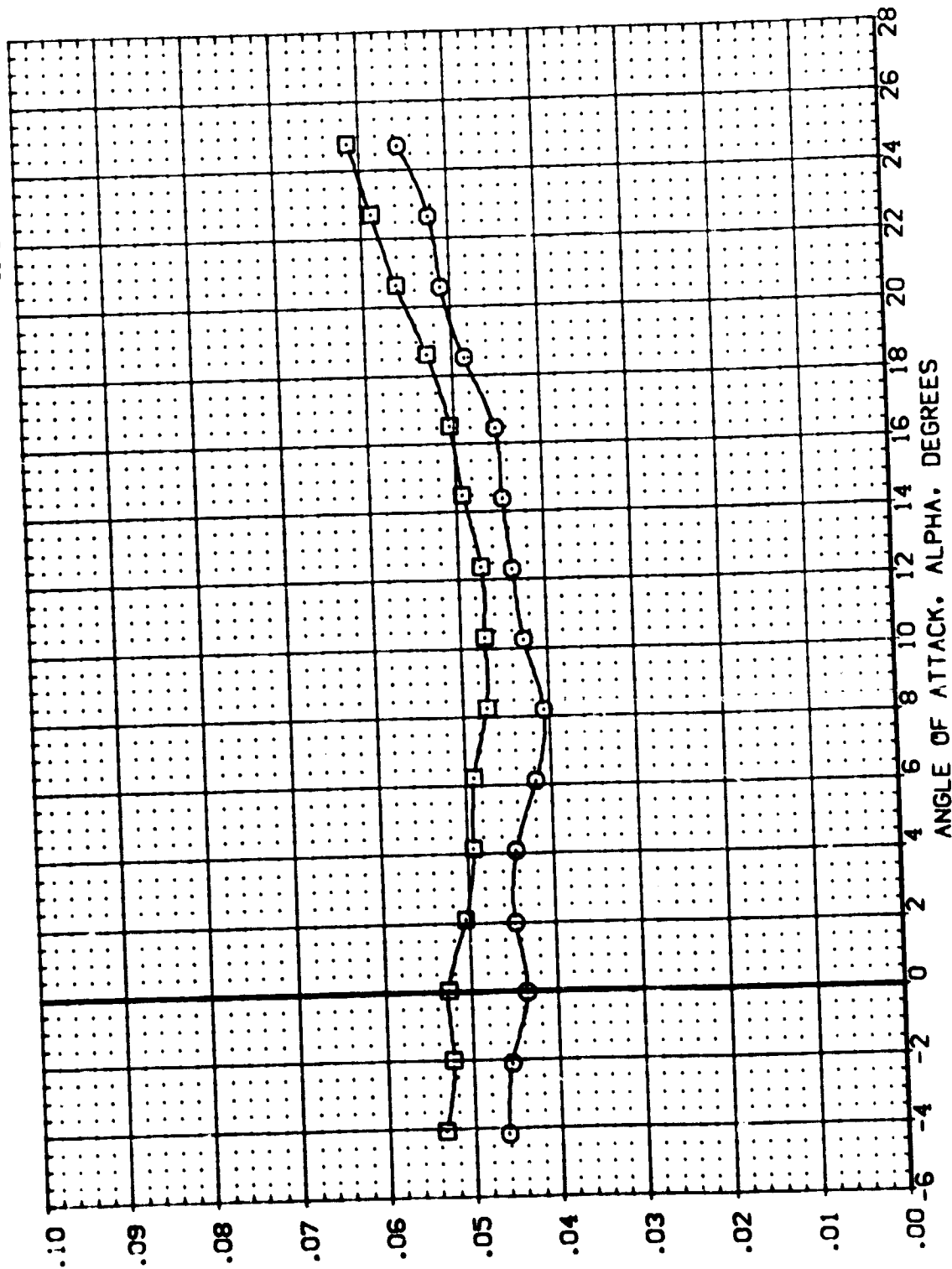


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

MACMACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[IDP14]	QAZ1	B17C7 H8 M4FS	V107E23V7R6S3	SREF	4.4119
[IDP153]	QAZ1	B17C7 H8 M4FS	V107E21V7R6S3	LREF	19.2299
				BREF	37.9359
				XREF	43.5974
				YREF	.0000
				ZREF	16.2000
				SCALE	.0405

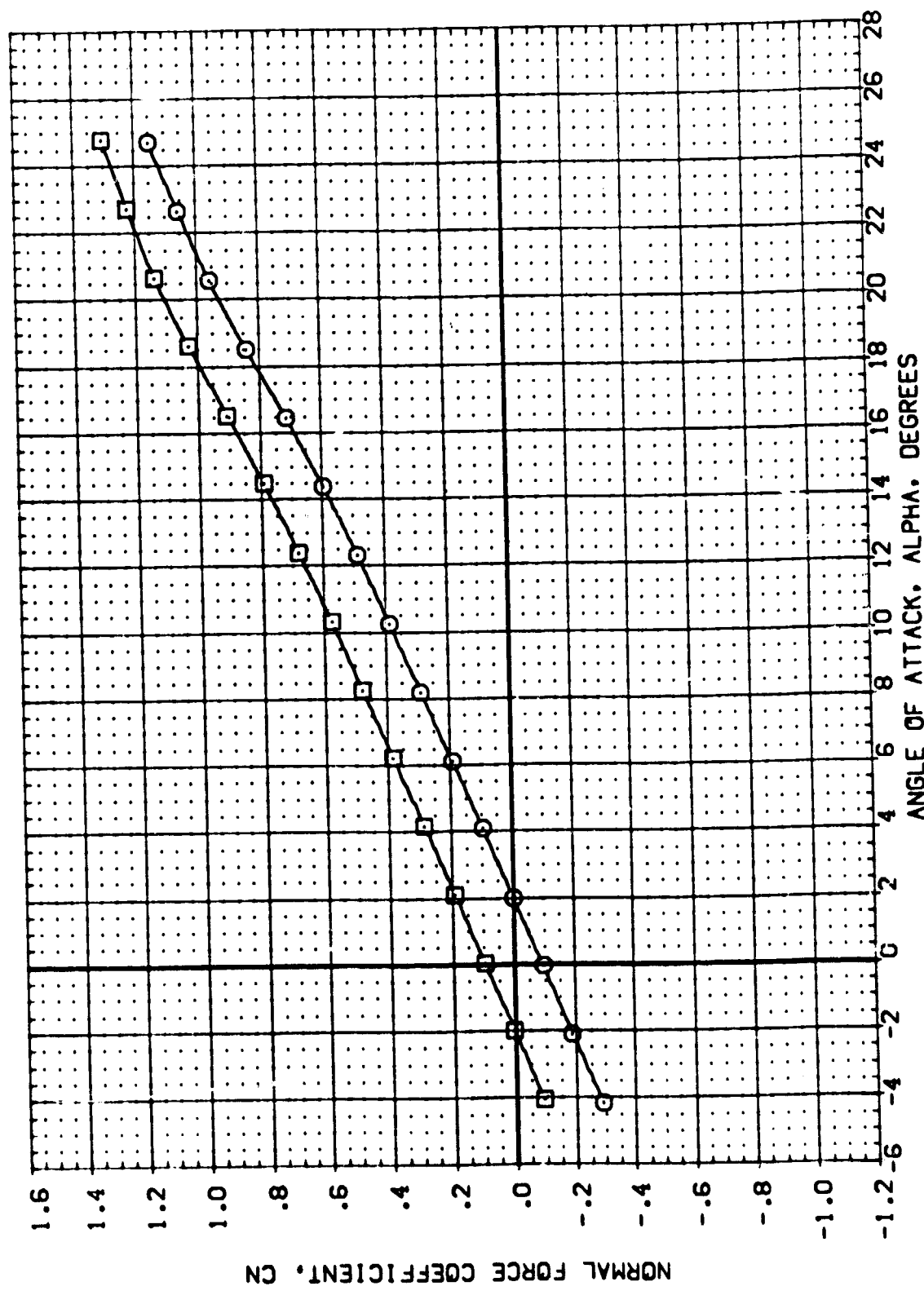


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

(A)MACH = .16



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP144) DA21 B17C7 H8 MAFS V107E23V7R6X9  
 (IDP153) DA21 B17C7 H8 MAFS V107E21V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION

SREF 4.4119 50.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

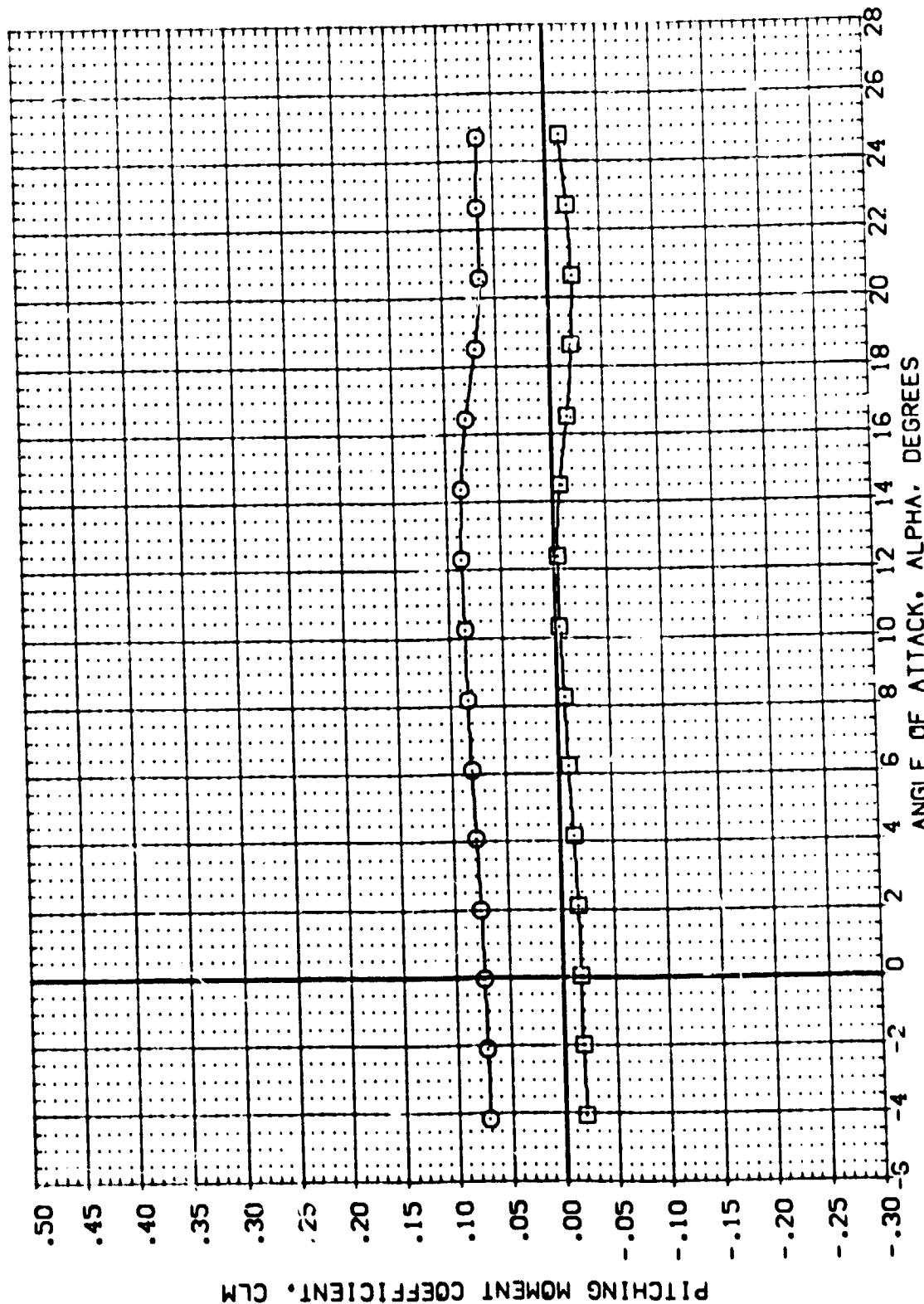


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

(A) MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (DDP153)    O    DA21    B17C7 H8 MAFS V107E21V7R6X9

MAXELE    DELELE    BOFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4118    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMPP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

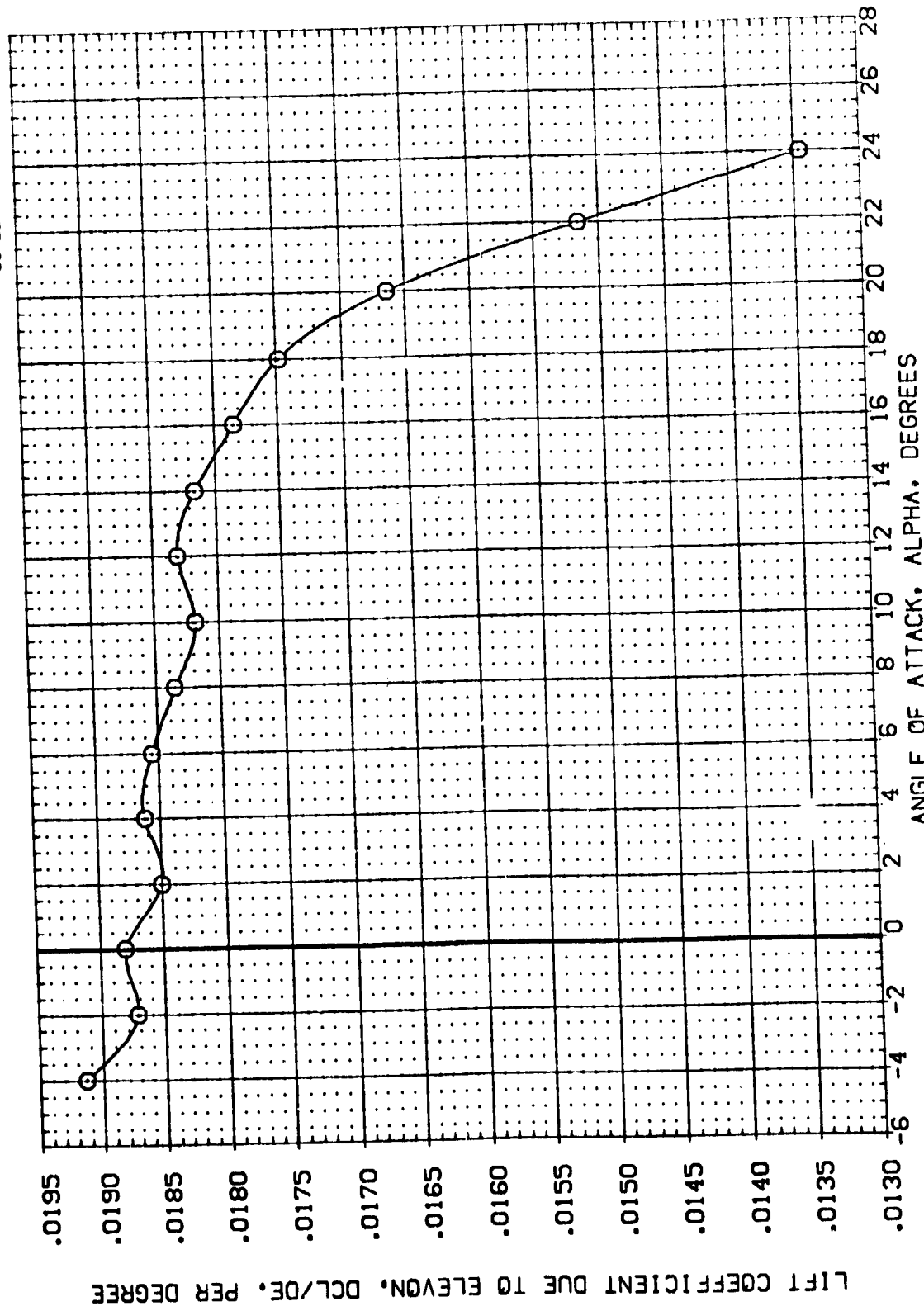


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

(A)MACH = .16

DATA SET SYMBOL  $\bigcirc$  QAZ1 B17C7 H8 M4FS V107E21V7R6X9

MAXELE 10.000 DELELE 10.000 BOFLAP -18.000 SPOBRK 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

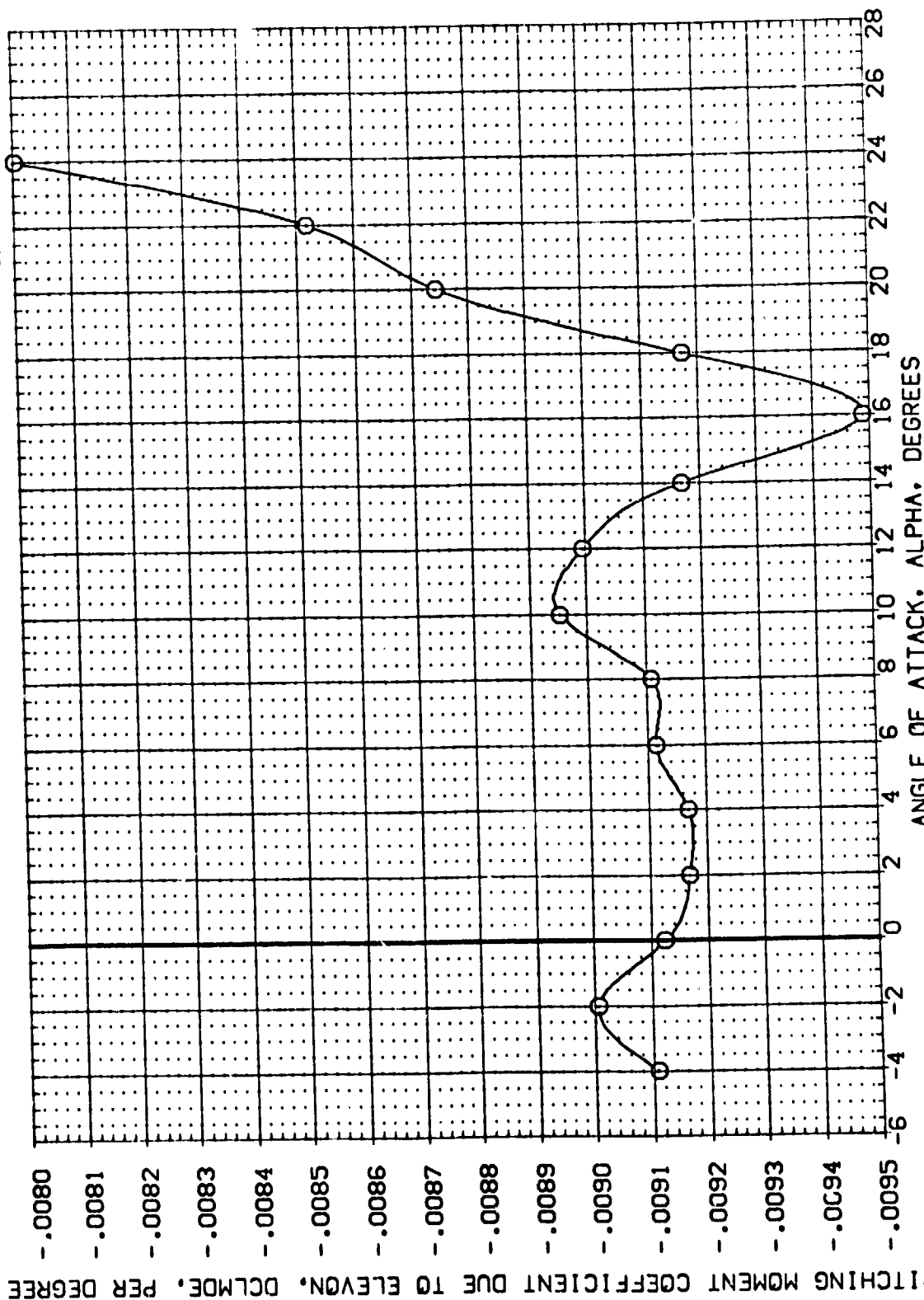


FIGURE 22 ELEVON EFFECTIVENESS WITH H8 CANARD

(A)MACH = .16

ELEVATION	AIRLON	BOFLAP	SPOBRK		REFERENCE INFORMATION	SO.FT.
.000	.000	-18.000	\$5.000	REF	4.4119	INCHES
10.000	.000	-18.000	\$5.000	LRF	19.7269	INCHES
				BRE	37.9369	INCHES
				XPRD	43.5974	INCHES
				VPRD	.0000	INCHES
				ZPRD	16.2000	INCHES
				SCALE	.0405	SCALE

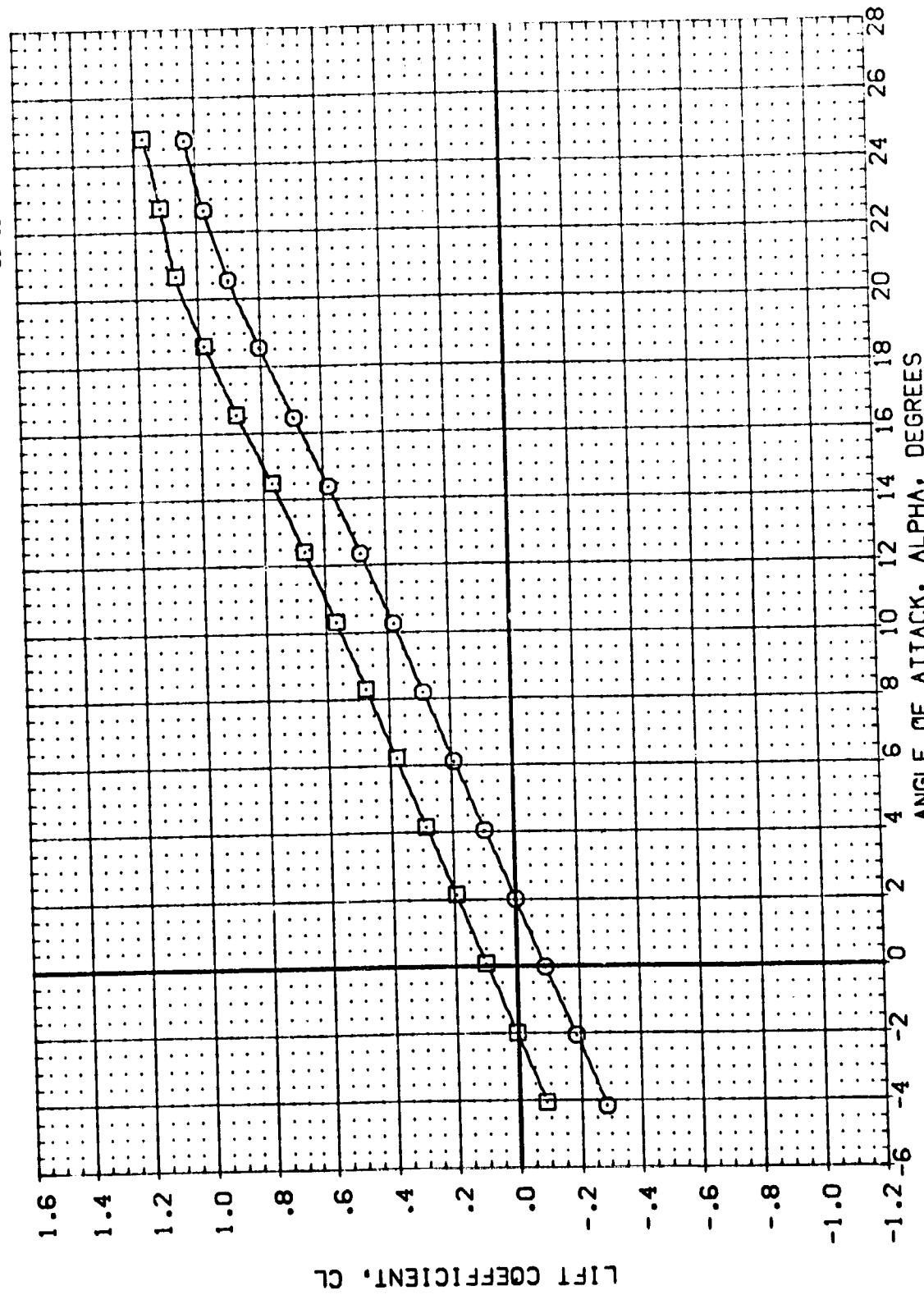


FIGURE 23 EVEN EFFECTIVENESS WITH H9 CANARD

$$[A]_{\text{MACH}} = .16$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPODBK	REFERENCE INFORMATION
(15)	CA21 B17C7 H9 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(15)	CA21 B17C7 H9 M4FS V107E21V7R6X9	10.000	.000	-18.000	55.000	LREF 19.2298 INCHES
						BREF 37.9359 INCHES
						XGRP 43.5974 INCHES
						YGRP 16.2000 INCHES
						ZGRP 16.2000 INCHES
						SCALE .0405

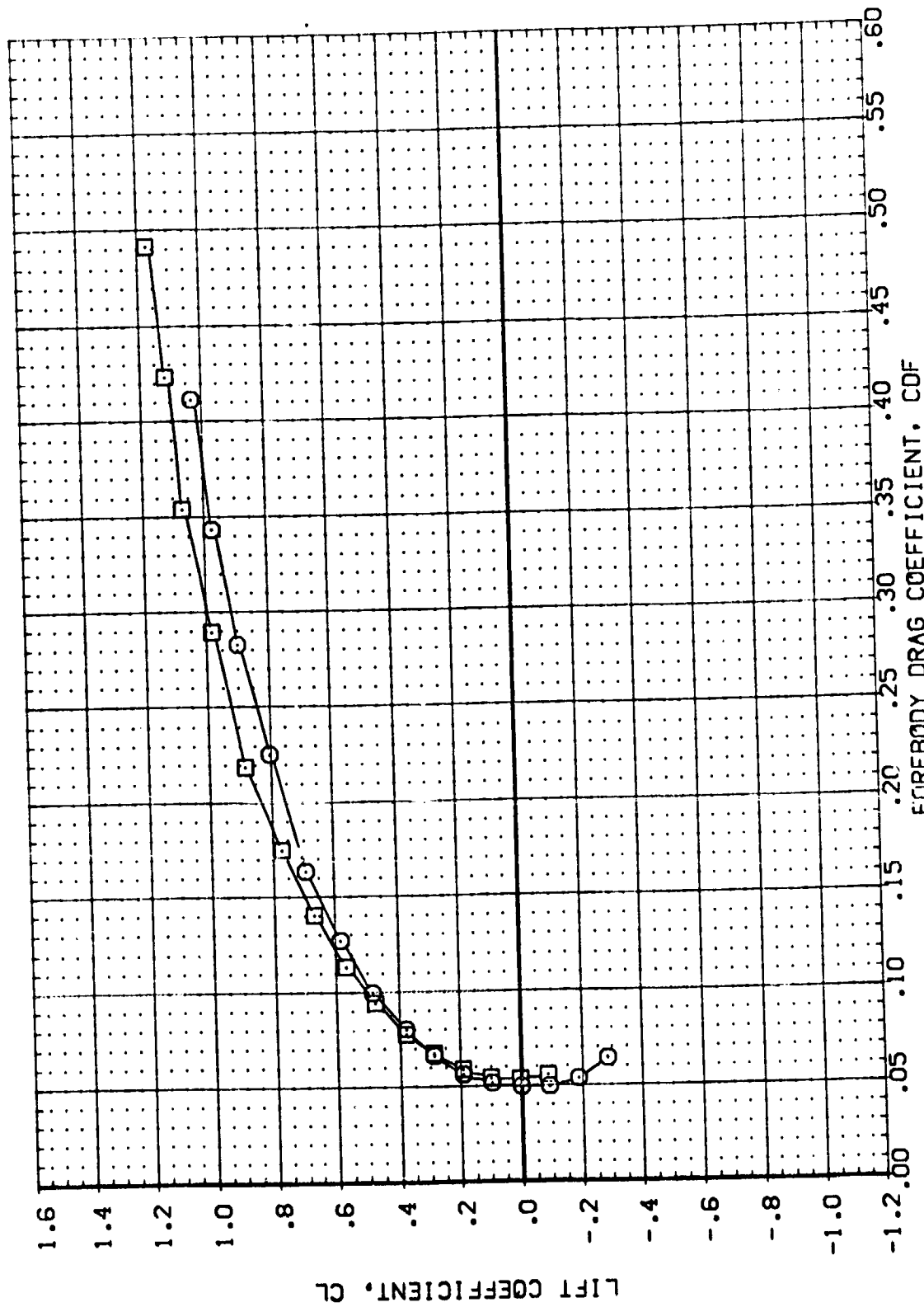


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16



DATA SET SYMBOL: 81727 H9 M4F5 V107E23V7R6V9  
 (1D145) 0A21 81727 H9 M4F5 V107E21V7R6V9  
 (1D152) 0A21

ELEVON  
 .000  
 10.000

AILERON  
 .000  
 .000

BOFLAP  
 -18.000  
 -18.000

SP08RK  
 55.000  
 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XM2P 43.5974 INCHES  
 YM2P .0000 INCHES  
 ZM2P 16.2000 INCHES  
 SCALE .0405

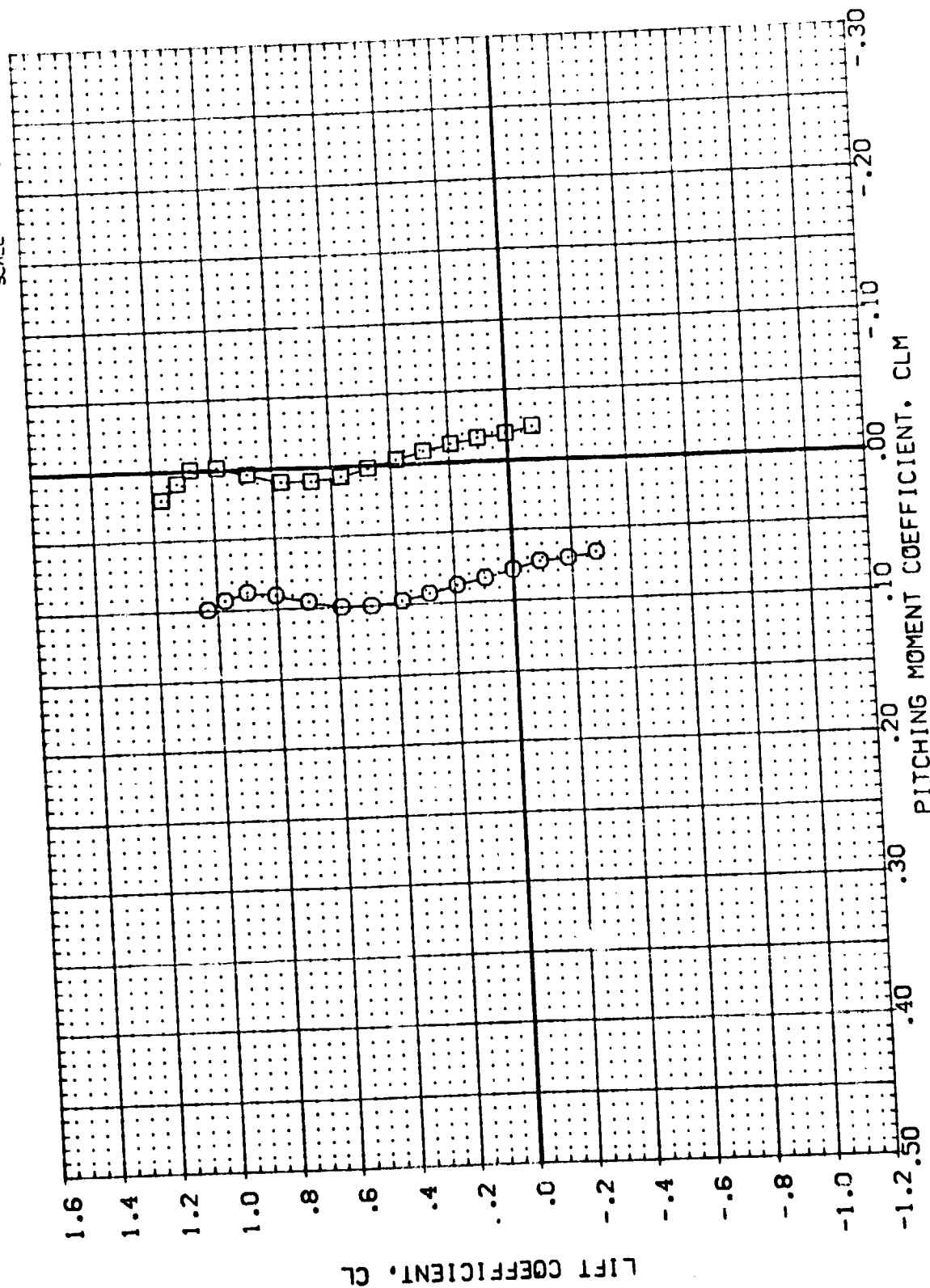


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		50 FT.	
(DP145)	□	817C7	H9 MAF5 V107E23V7R6X9	SREF	4.4119	INCHES	
(DP152)	□	817C7	H9 MAF5 V107E21V7R6X9	LREF	19.2299	INCHES	
		CA21		BREF	37.9359	INCHES	
		CA21		XMRP	43.5974	INCHES	
				YMRP	16.0000	INCHES	
				ZMRP	16.2000	INCHES	
				SCALE	.0405	SCALE	

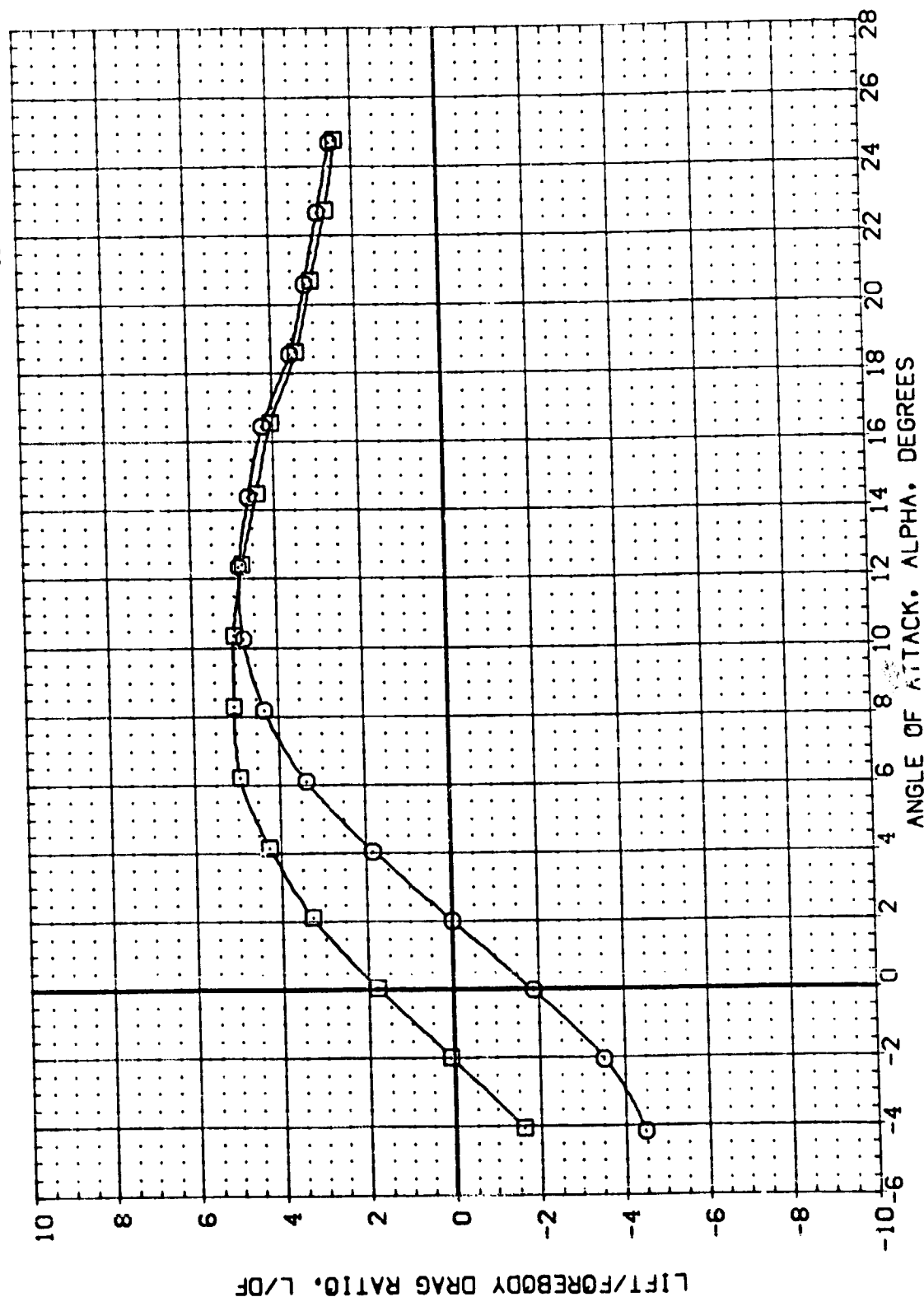


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A) MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP145) 817C7 H8 M4FS V107E23V7REX8  
 (IDP152) 817C7 H8 M4FS V107E21V7REX8

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF 0.000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

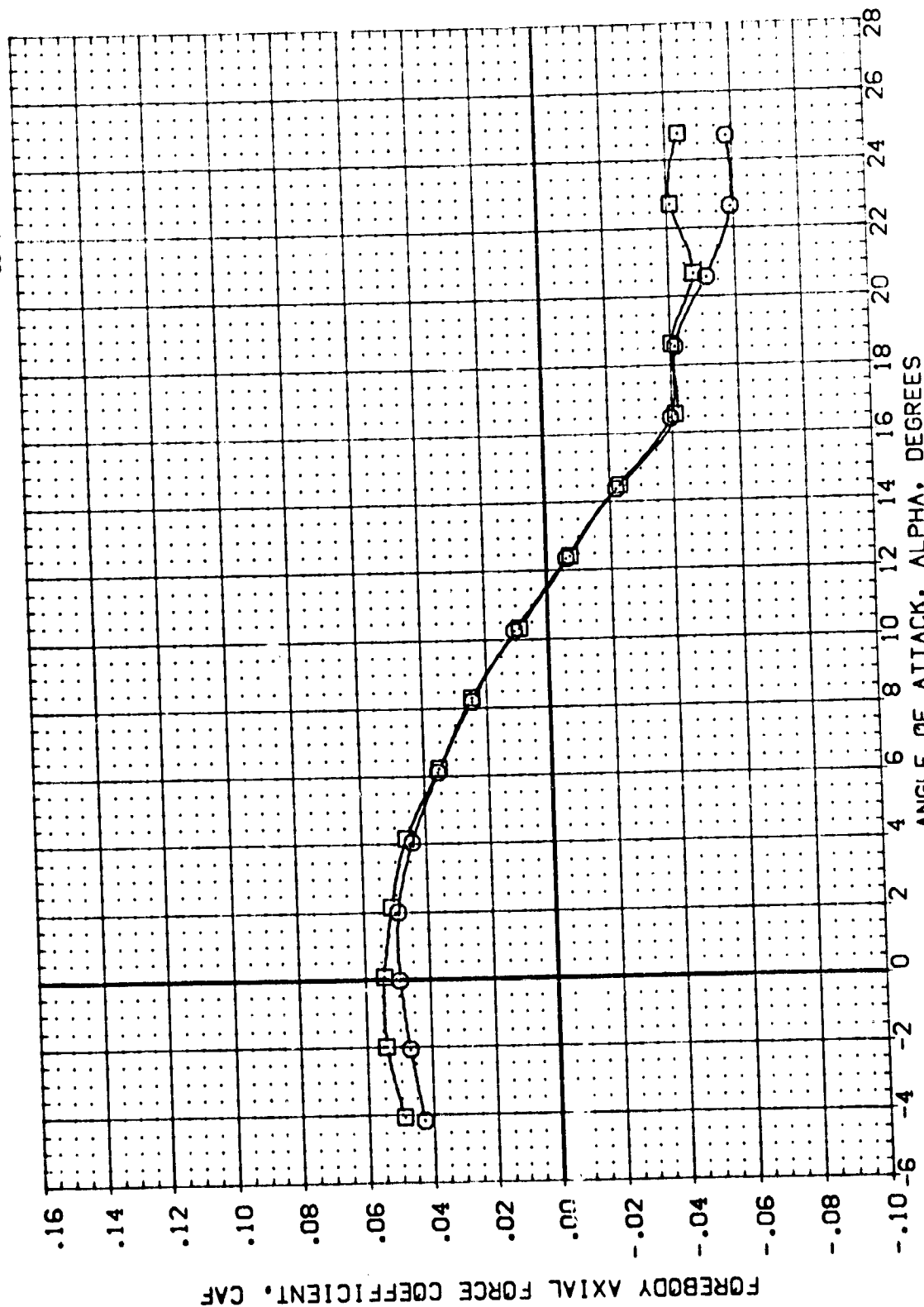


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(DP145)	QAZ1	B17C7 H9 MAFS	V107E23V7R6X9	SREF	4.4119
(DP152)	QAZ1	B17C7 H9 MAFS	V107E21V7R6X9	LREF	19.2299
				BREF	37.9359
				XMRP	43.5974
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405

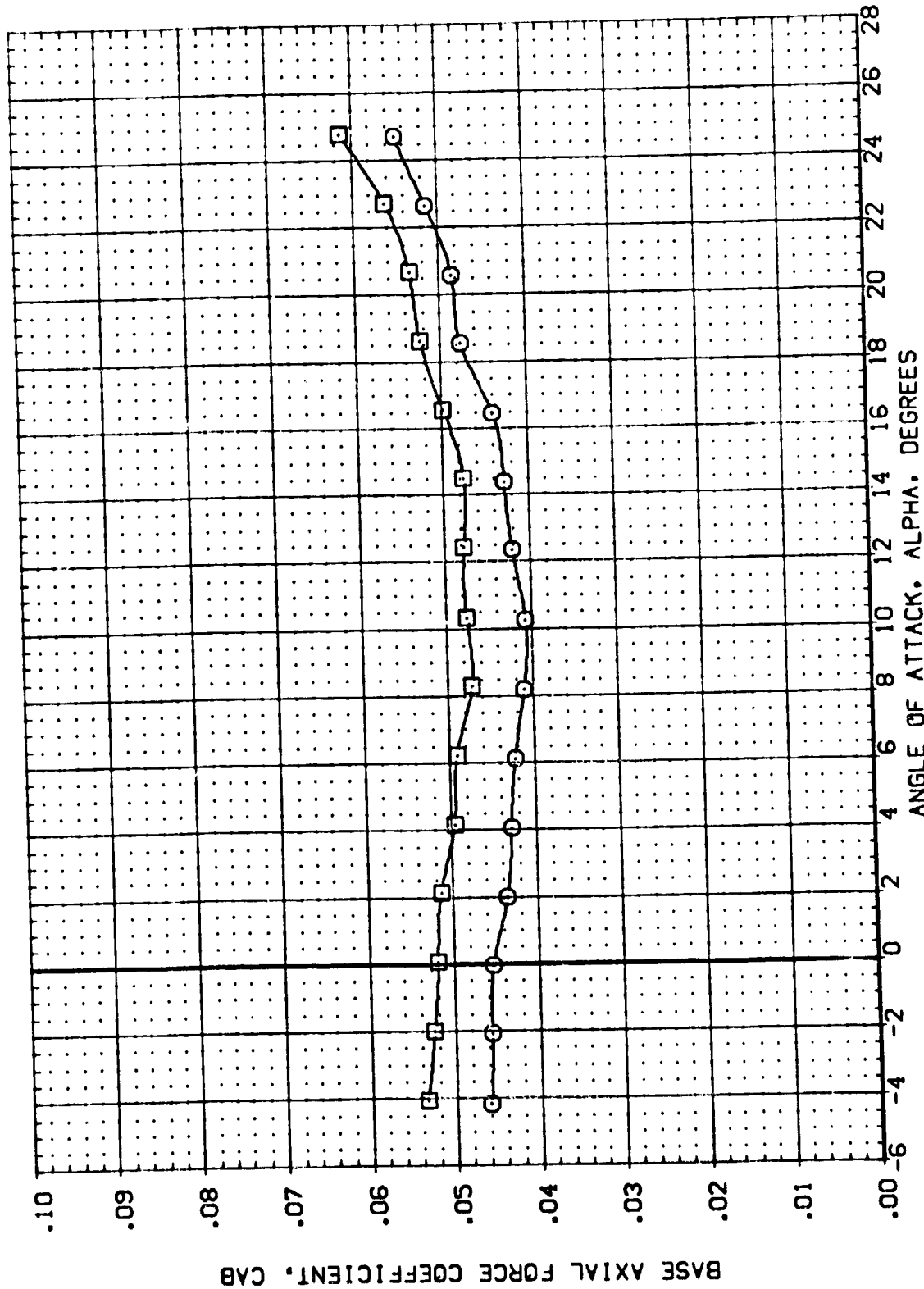


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10P145) 0A21 817C7 H9 M4F5 V107E23V7R6X9  
 (10P152) 0A21 817C7 H9 M4F5 V107E21V7R6X9

ELEVON ALLRON BOFLAP SPOBRK  
 .003 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

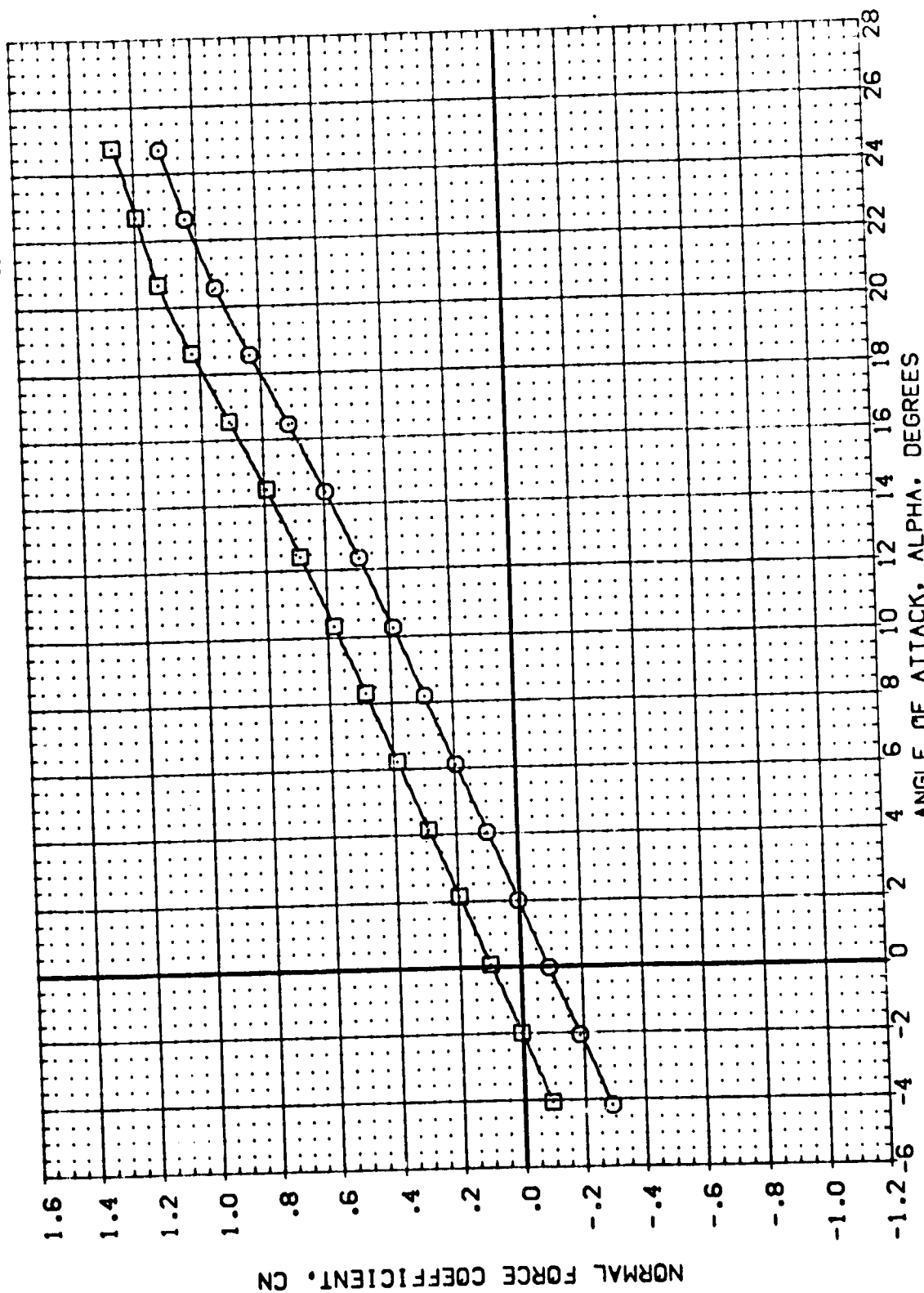


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10P152) 0A21 B17C7 H9 M4FS V107E23V7R6X9  
 (10P145) 0A21 B17C7 H9 M4FS V107E21V7R6X9

ELEVON AIRLON BOFLAP SPDBRK  
 10.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2298 INCHES  
 BREF 37.5359 INCHES  
 XREF 43.5574 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

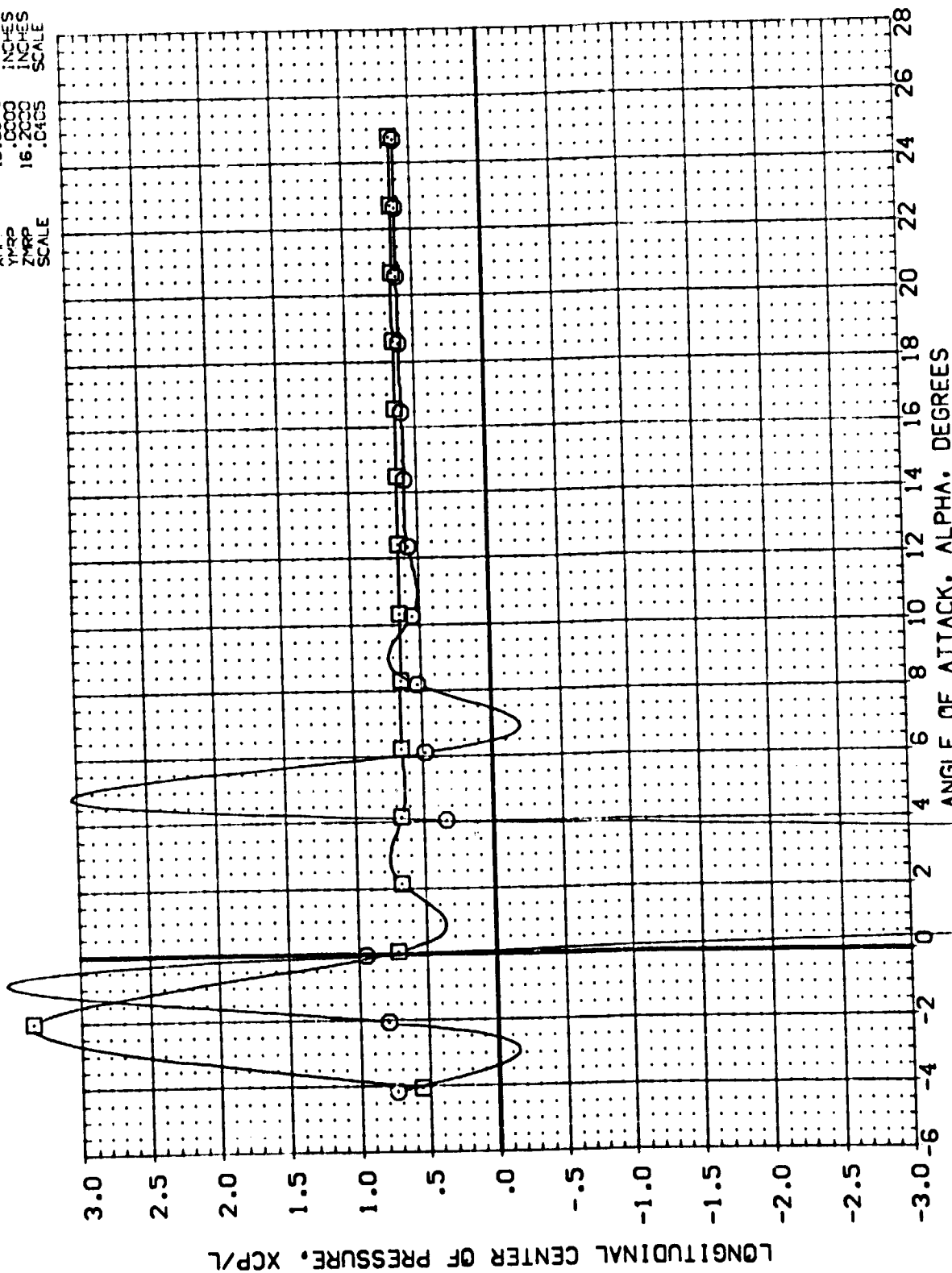


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10145) 0A21 B17C7 H9 M4F5 V107E23V7R6X9  
 (10152) 0A21 B17C7 H9 M4F5 V107E21V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 10.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XGRP 43.5974 INCHES  
 YGRP .0000 INCHES  
 ZGRP 16.2000 INCHES  
 SCALE .0405

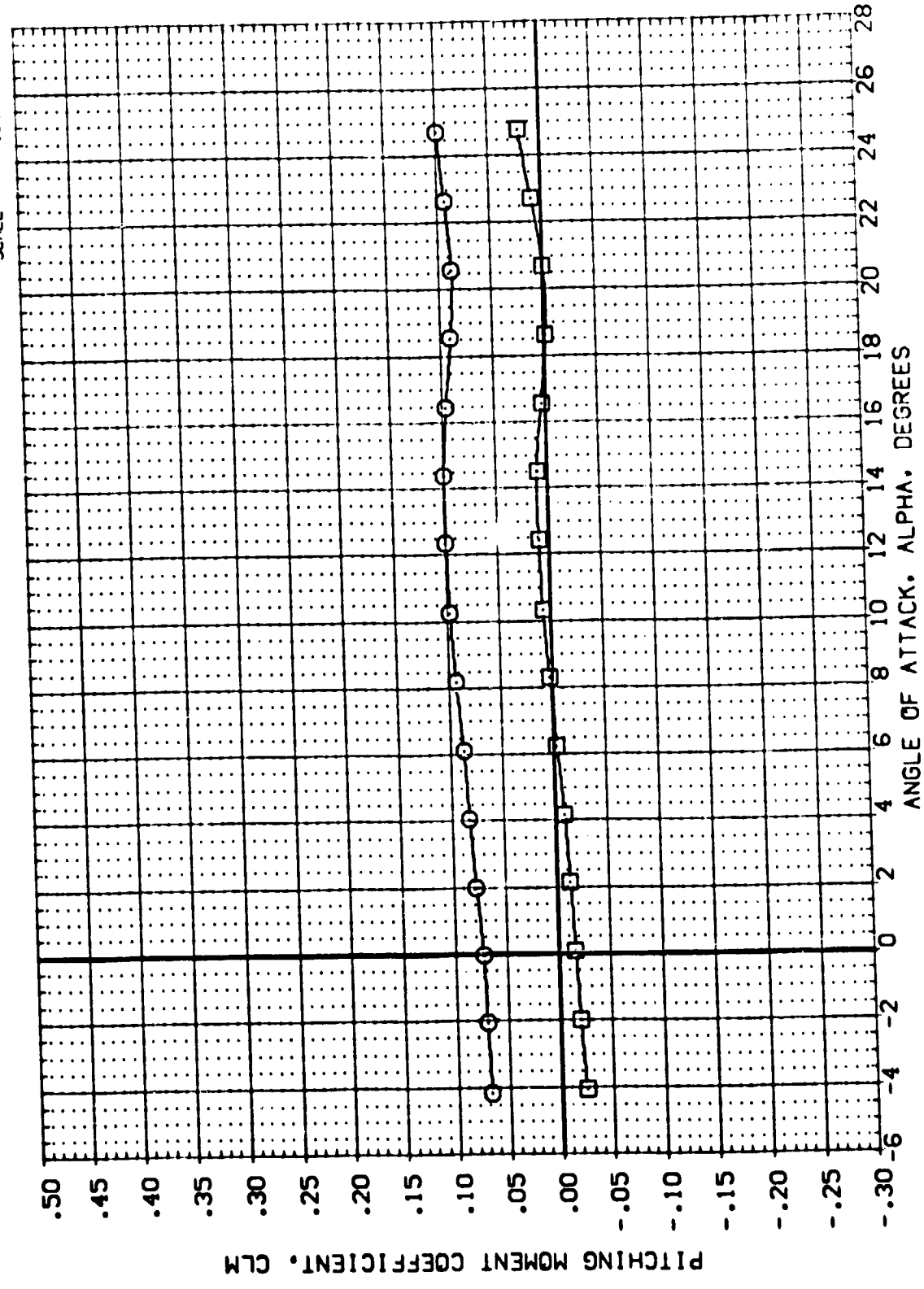


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (00P152)    ○    0A21    B17C7 H9 H4F5 V107E21V7R6H9

MAXELE    10.000  
 DELELE    10.000  
 BOFLAP    -18.000  
 SPOBRK    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    0.000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

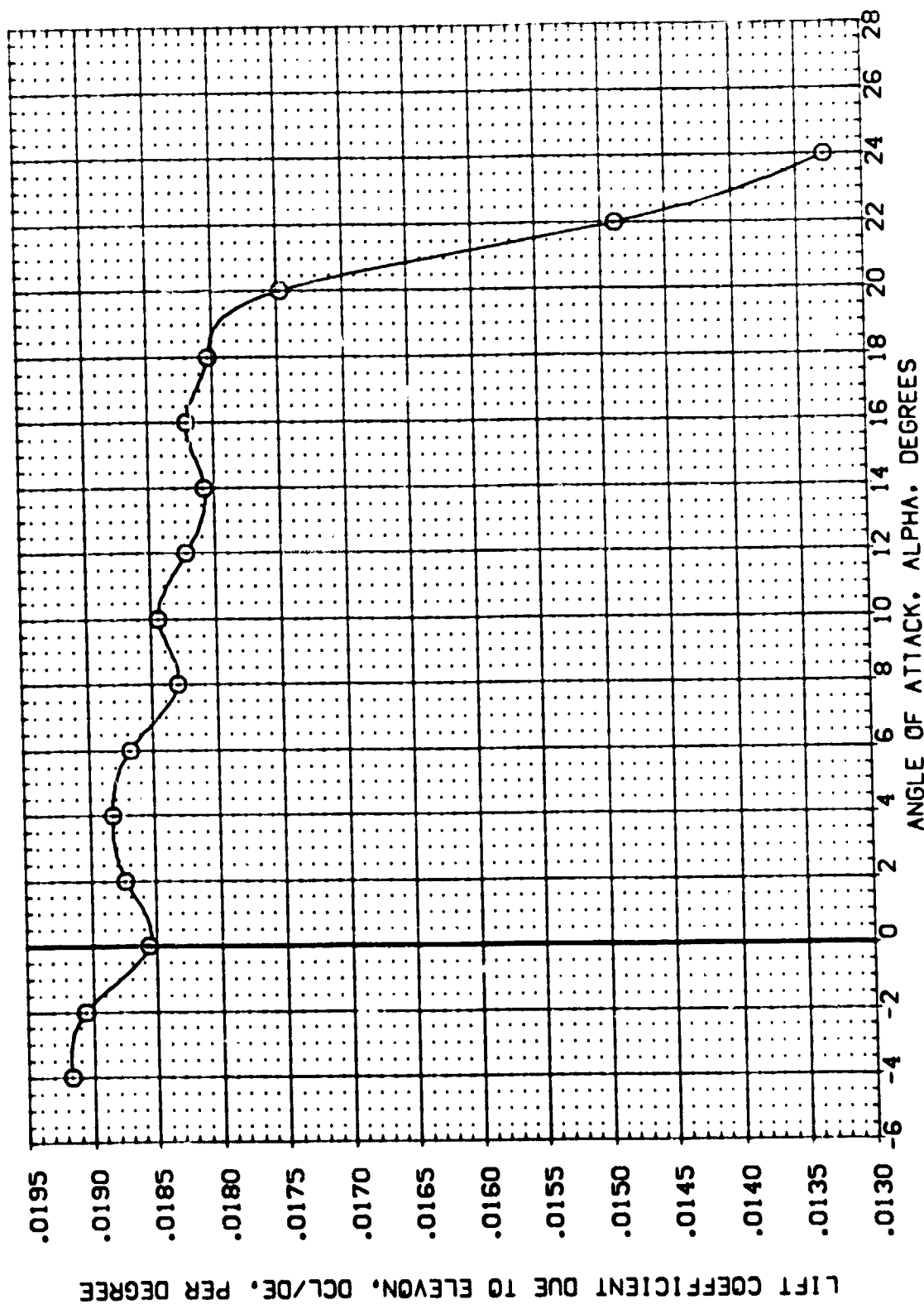


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16



DATA SET SYMBOL: 0 QAZ1 817C7 H9 MAFS VIOTE21V7H6D3

MAVELE 10.000 DELELE 10.000 BOFLAP 55.000  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2007 INCHES  
 SCALE .0435

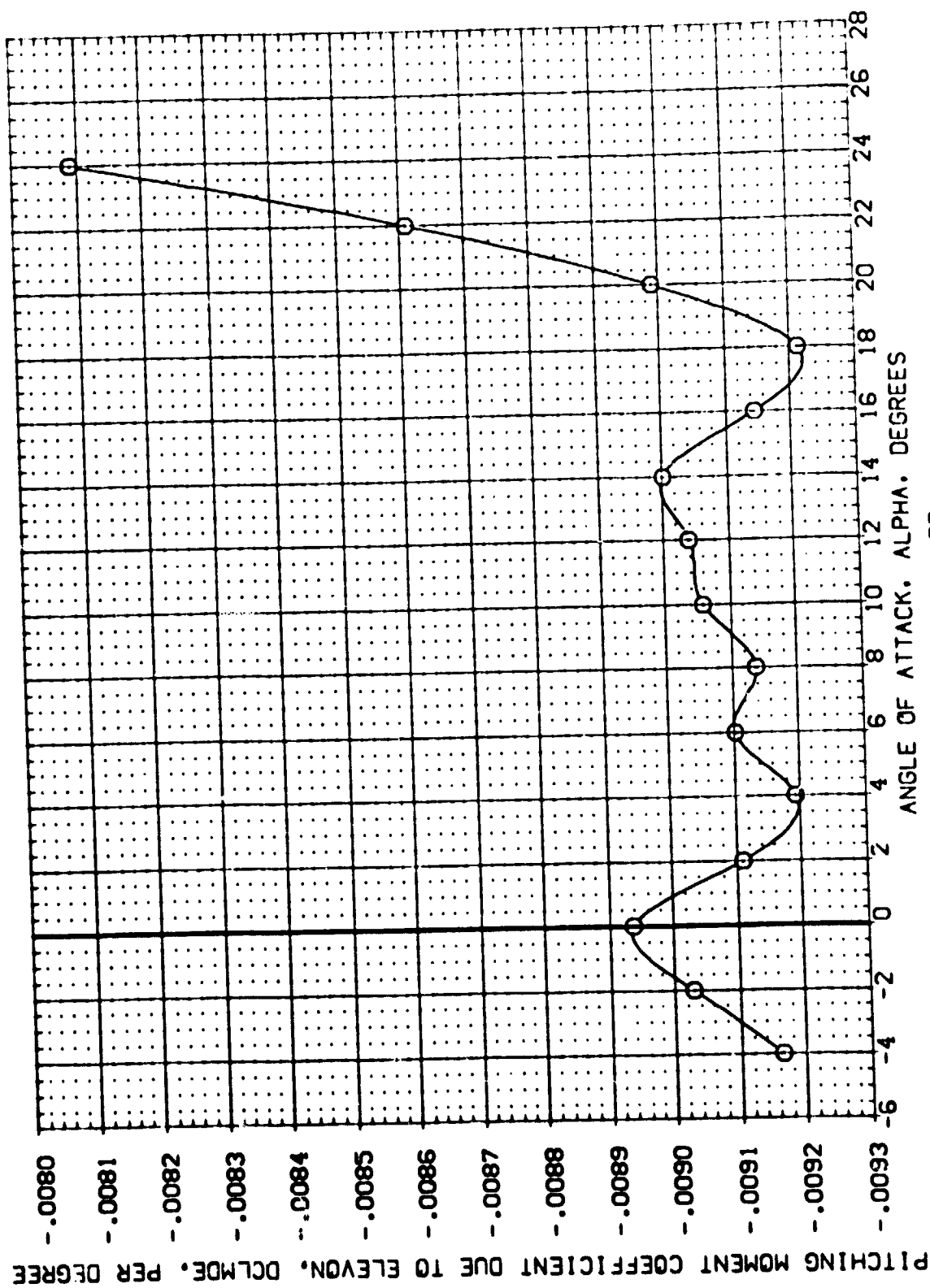


FIGURE 23 ELEVON EFFECTIVENESS WITH H9 CANARD

(A)MACH = .16

DATA SET SYMBOL: 817C7M1D4F5  
 CONFIGURATION DESCRIPTION: VIOTE23V7R6X9  
 REFERENCE INFORMATION:  
 SREF: 4.4119 SQ. FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XREF: 43.5974 INCHES  
 YREF: .0000 INCHES  
 ZREF: 16.2000 INCHES  
 SCALE: .0405

ELEVON: 10.000  
 AILERON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

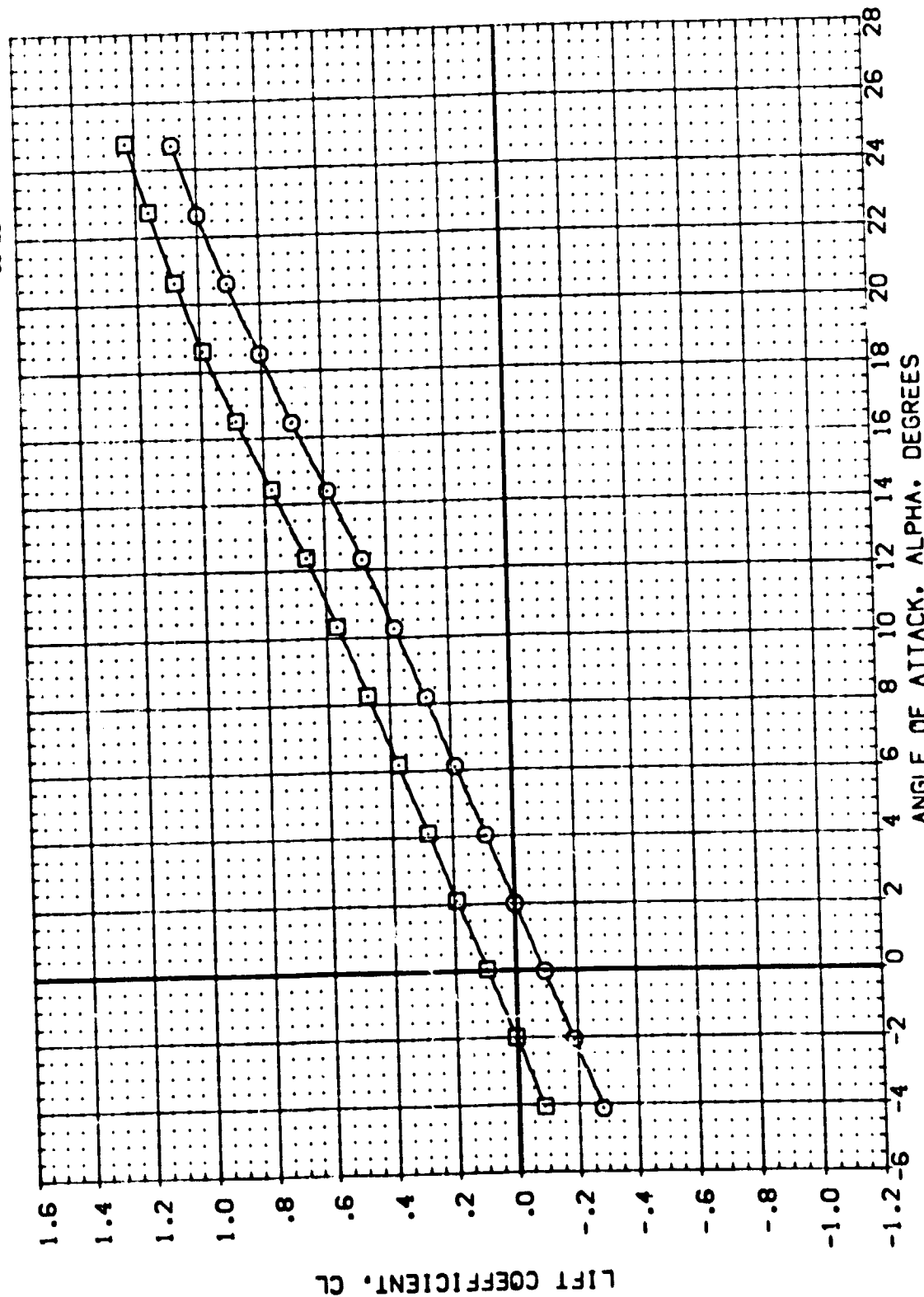


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

REFERENCE INFORMATION	
SBREF	4.4119 SQ.FT.
LREF	19.2299 INCHES
SBREF	37.9359 INCHES
XMPR	43.5974 INCHES
YMPR	.0000 INCHES
ZMPR	16.2000 INCHES
SCALE	.0405 SCALE

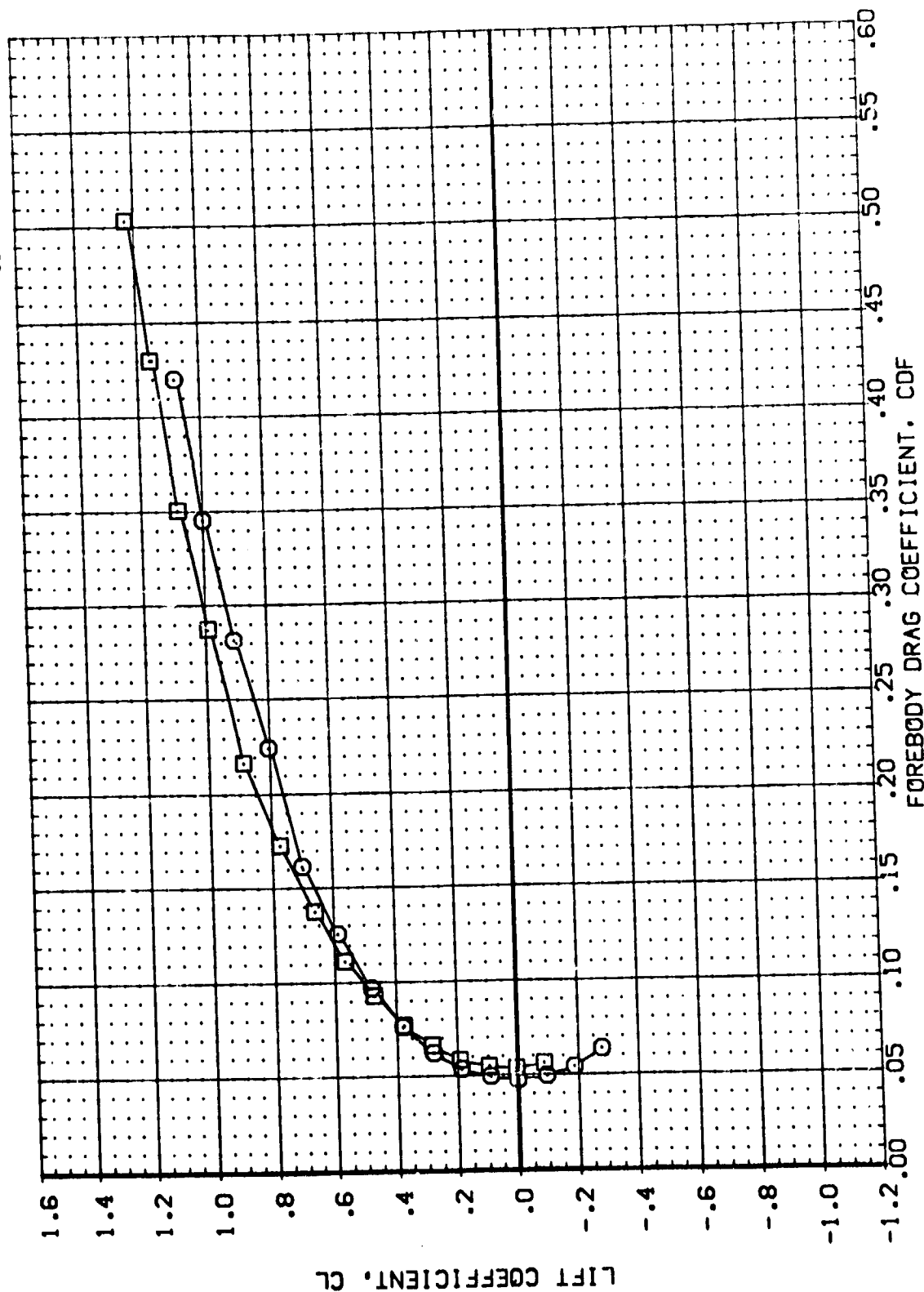


FIGURE 24. FLEVEN EFFECTIVENESS WITH H10 CANARD

$$[A]_{MACH} = .16$$

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[[DP150]]	8	0A21	817C7H10MFS	SREF	4.4119
[[DP157]]	8	0A21	817C7H10MFS	LREF	19.2298
				BREF	37.9353
				XMREF	43.5974
				YMREF	.0000
				ZMREF	16.2000
				SCALE	.0405

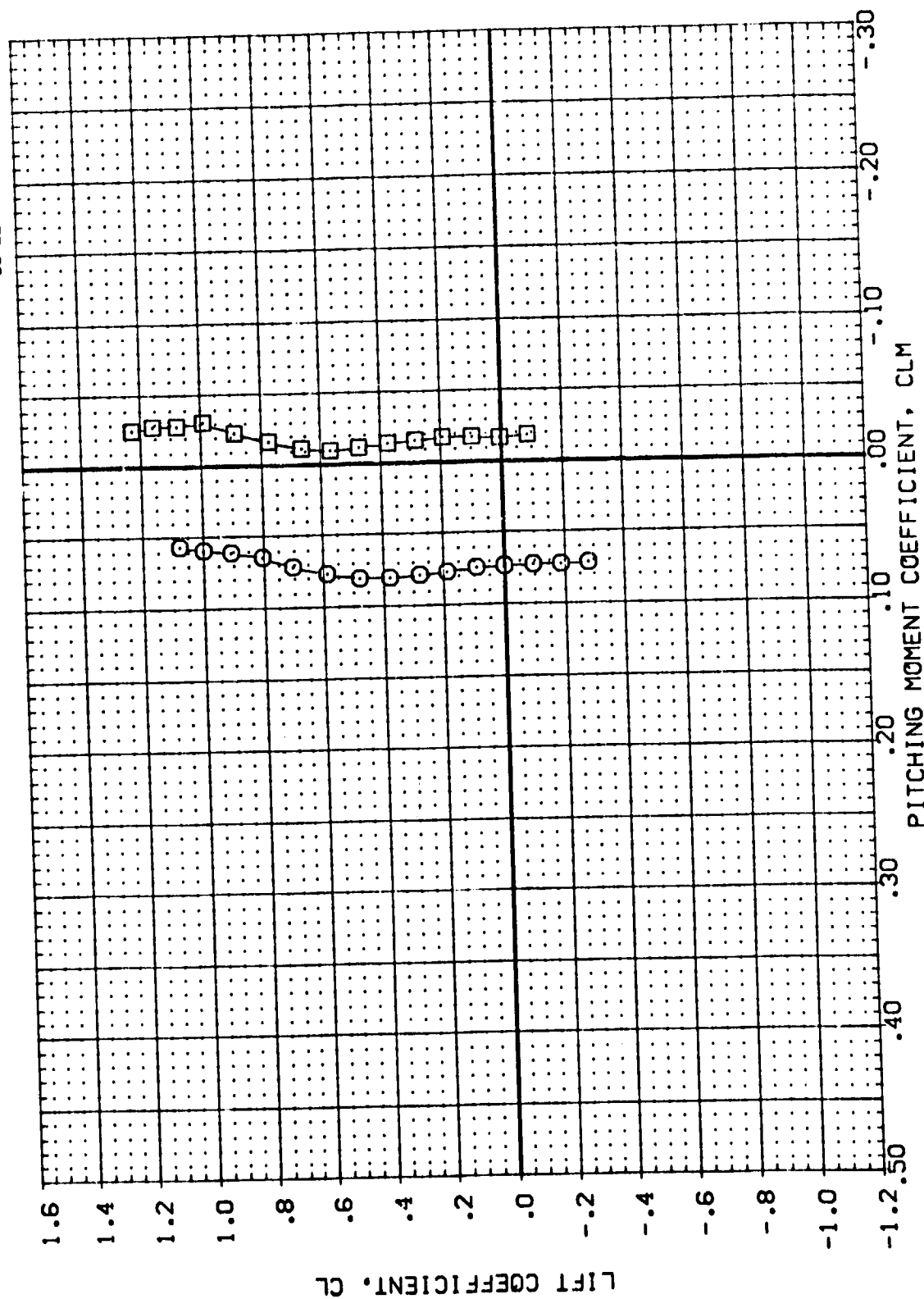


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (1D160)    8A21    817C7H10M4F5    V107EZ3V7R6X9  
 (1D157)    8A21    817C7H10M4F5    V107EZ3V7R6X9

ELEVON    AILRON    BOFLAP    SPOBRK    REFERENCE INFORMATION  
 .000    .000    -18.000    55.000    SREF    4.4119    50. FT.  
 10.000    .000    -18.000    55.000    LREF    19.2299    INCHES  
 .000    .000    .000    .000    BRFF    37.9359    INCHES  
 .000    .000    .000    .000    XMRP    43.5974    INCHES  
 .000    .000    .000    .000    YMRP    .0000    INCHES  
 .000    .000    .000    .000    ZMRP    16.2000    INCHES  
 .000    .000    .000    .000    SCALE    .0405    SCALE

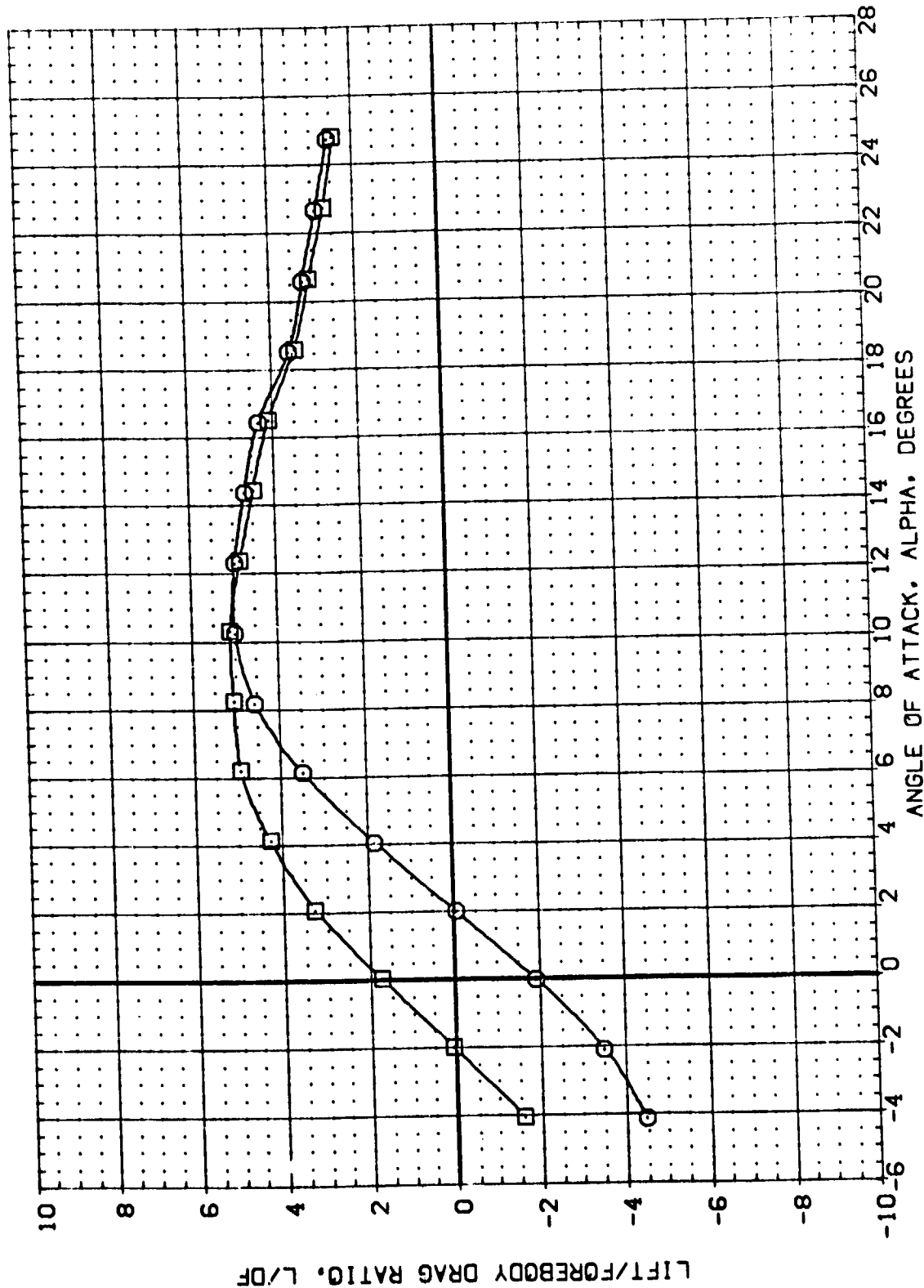


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL: 817C7H10M4FS V107E23V7R6X9  
 (IDP160) 817C7H10M4FS V107E23V7R6X9  
 (IDP157)

CONF IGURATION DESCRIPTION  
 817C7H10M4FS V107E23V7R6X9  
 817C7H10M4FS V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SC.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

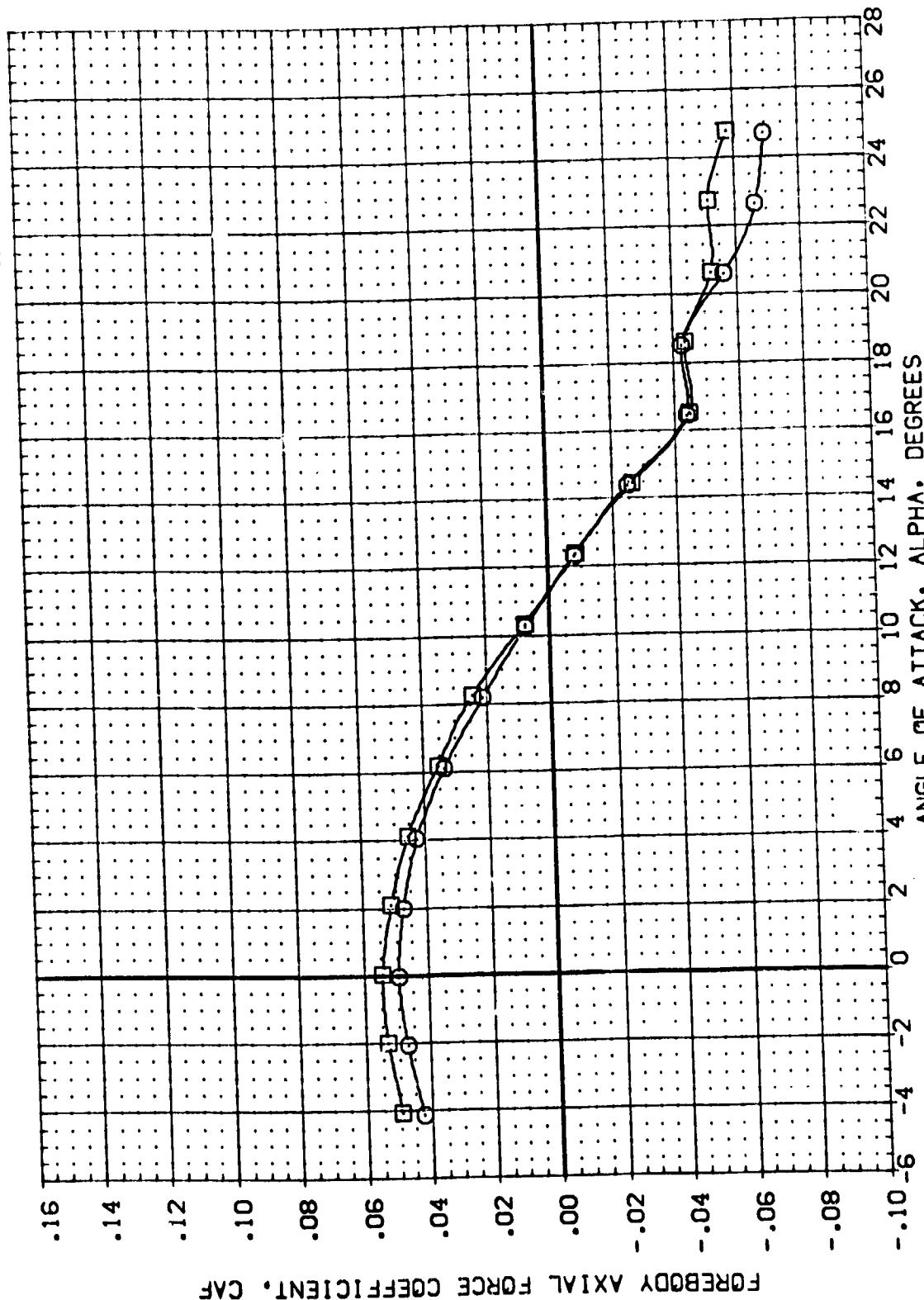


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
(108160)	QA21	B17C7H10M4FS V107E23V7R6S9
(108157)	QA21	B17C7H10M4FS V107E23V7R6S9

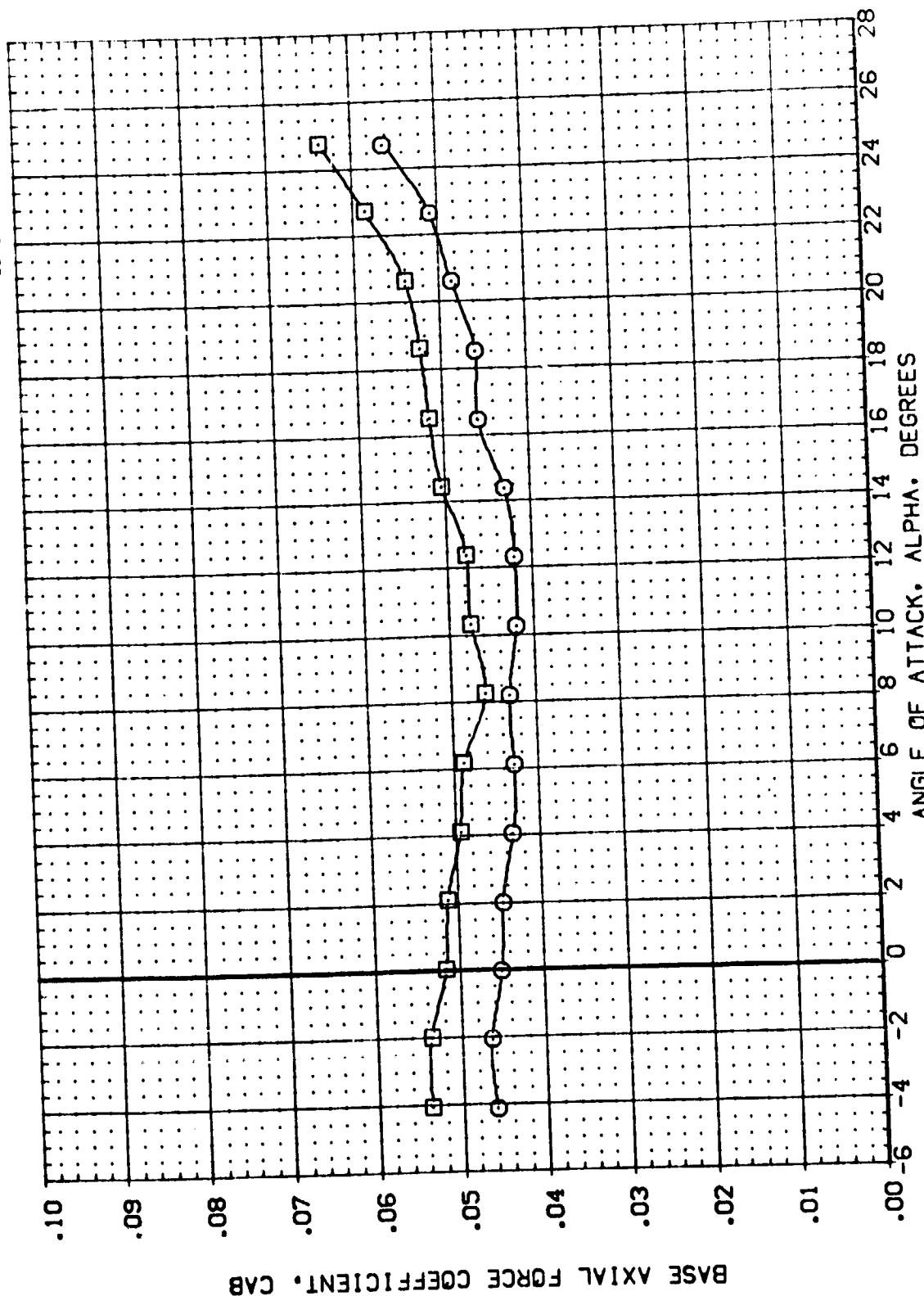


FIGURE 24 ELEVEN EFFECTIVENESS WITH H10 CANARD

$$\text{CASMACH} = .16$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (DP163) CA21 B17C7H1C4FS V107E23V7R6S9  
 (DP157) CA21 B17C7H1C4FS V107E23V7R6S9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 30. FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405 SCALE

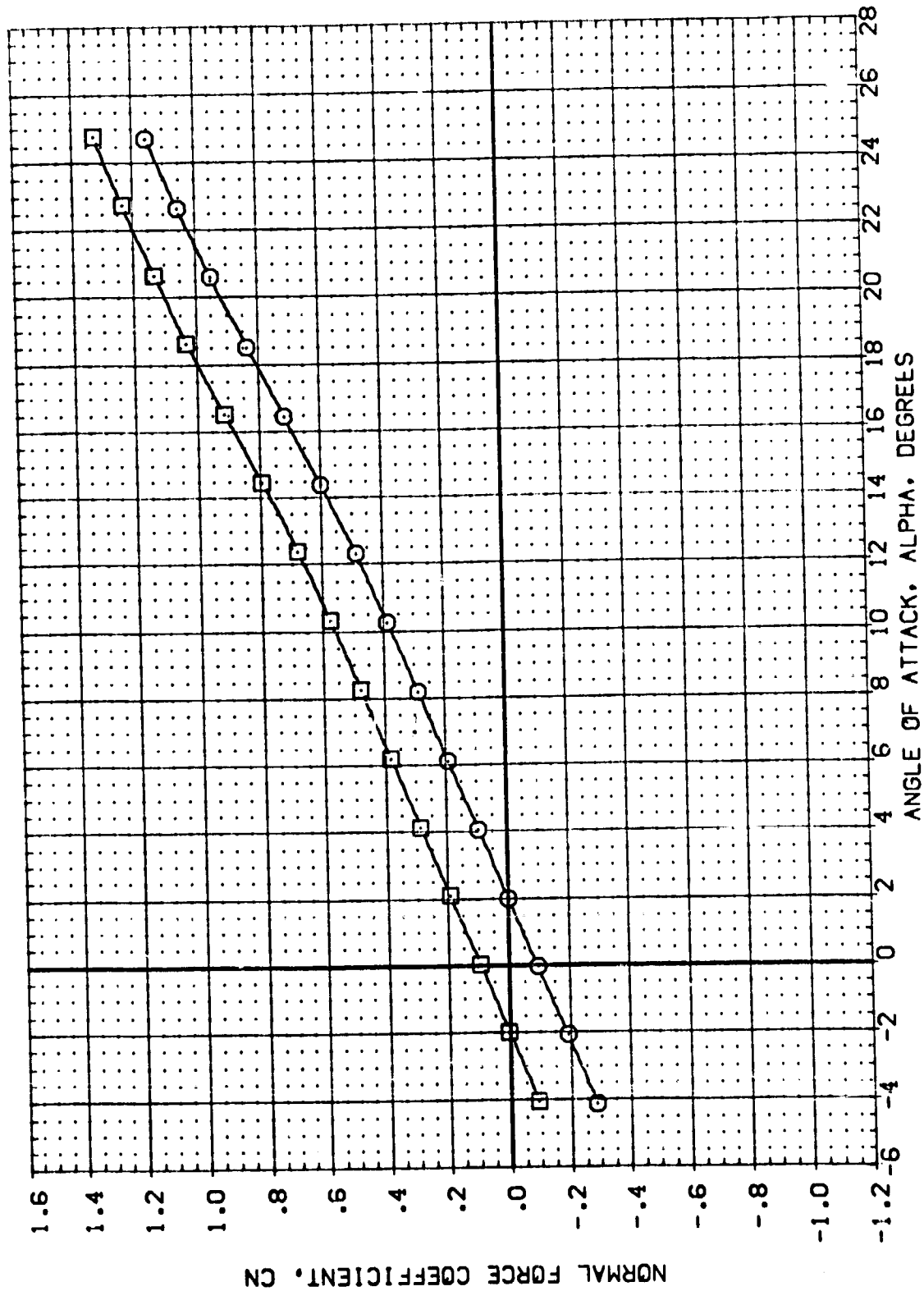


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A) MACH = .16



DATA SET SYMBOL (10P:60) (10P:57)

CONF. IS. RATION DESCRIPTION  
 0A21 817C7H10M4FS V107E23V7R6X5  
 0A21 817C7H10M4FS V107E23V7R6X5

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SC.FT.  
 LREF 19.2299 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

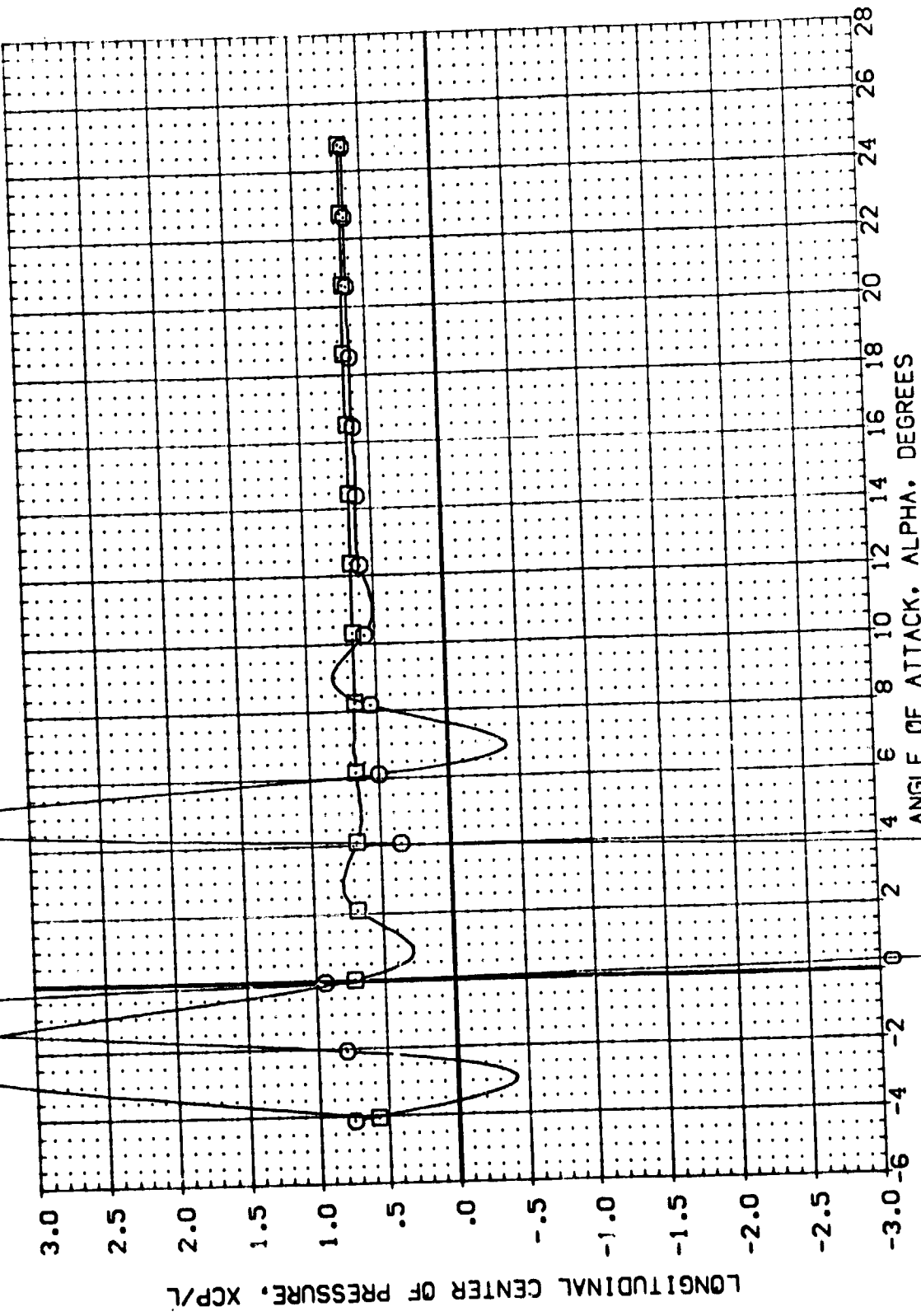


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL: 128162  
 CONFIGURATION DESCRIPTION: B17C7H10M1F5 V107E23V7R6X9  
 B17C7H10M1F5 V107E23V7R6X9

ELEVON: 10.000  
 AIRLON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2298 INCHES  
 BREF: 37.5359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

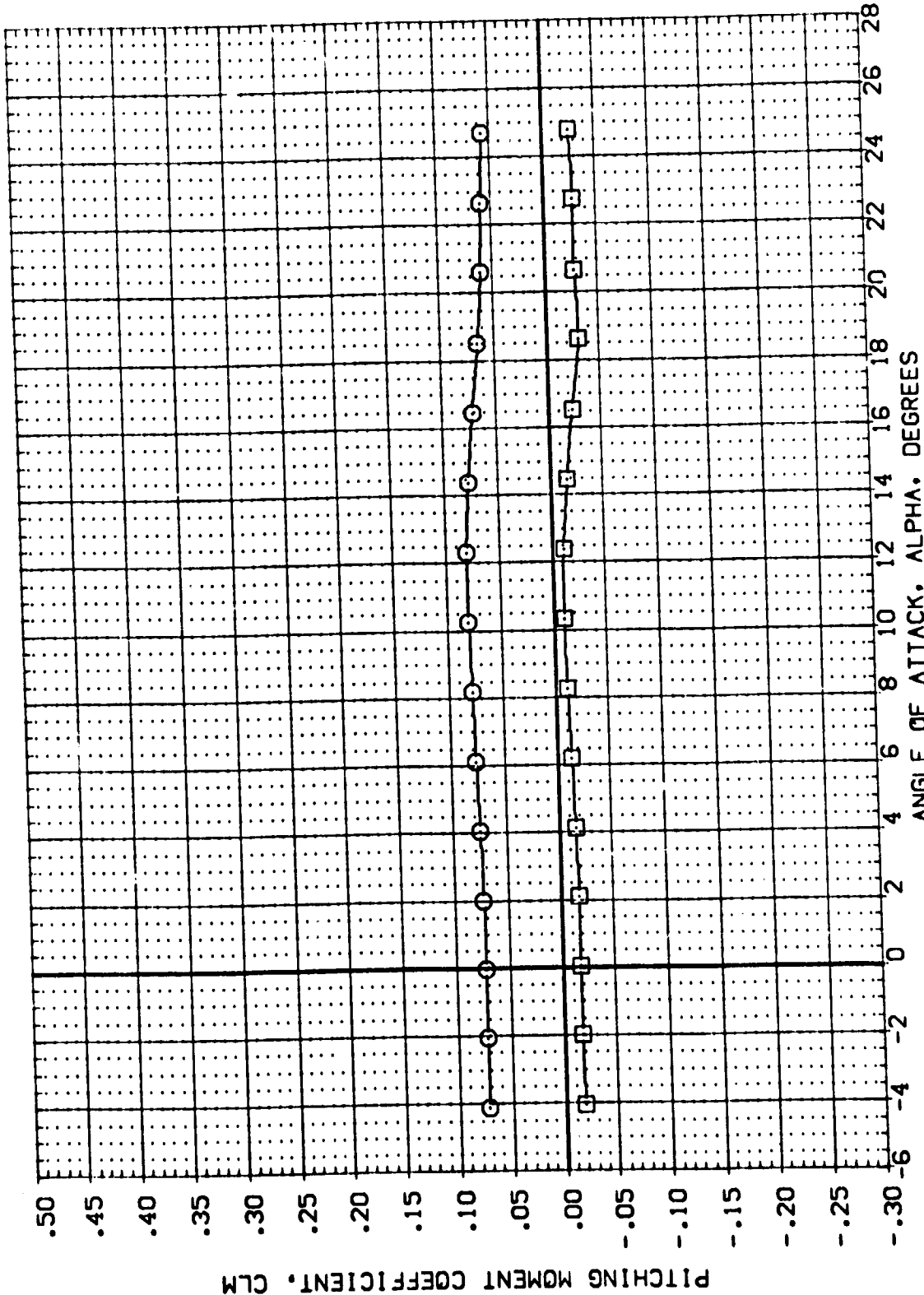


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL: DA21 B17C7M10MFS V107E23V7R6X9  
(COP157) ○

MAXELE 10.000 DELELE 10.000 BOFLAP -18.000 SPOBRK 55.000  
 REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

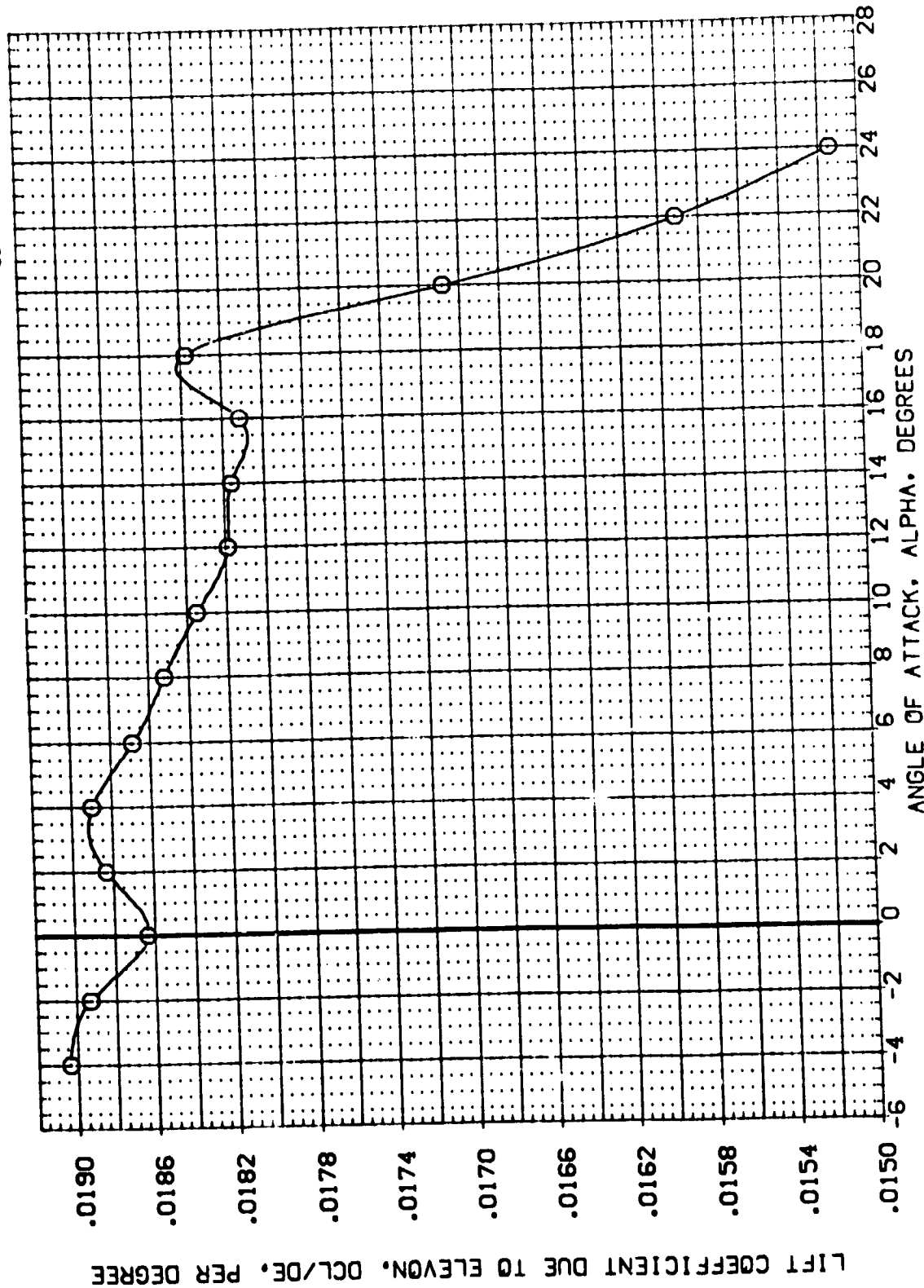


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
(00P157)    O    0A21    B17C7H1C4F5    V107EZ3V7R6X9

MAXELE    13.000    DELELE    10.000    BOFLAP    -18.000    SPOBRK    55.000

REFERENCE INFORMATION  
SREF    4.4119    50.FT.  
LREF    19.2299    INCHES  
BREF    37.9359    INCHES  
XMRP    43.5974    INCHES  
YMRP    16.0000    INCHES  
ZMRP    16.2000    INCHES  
SCALE    .0405

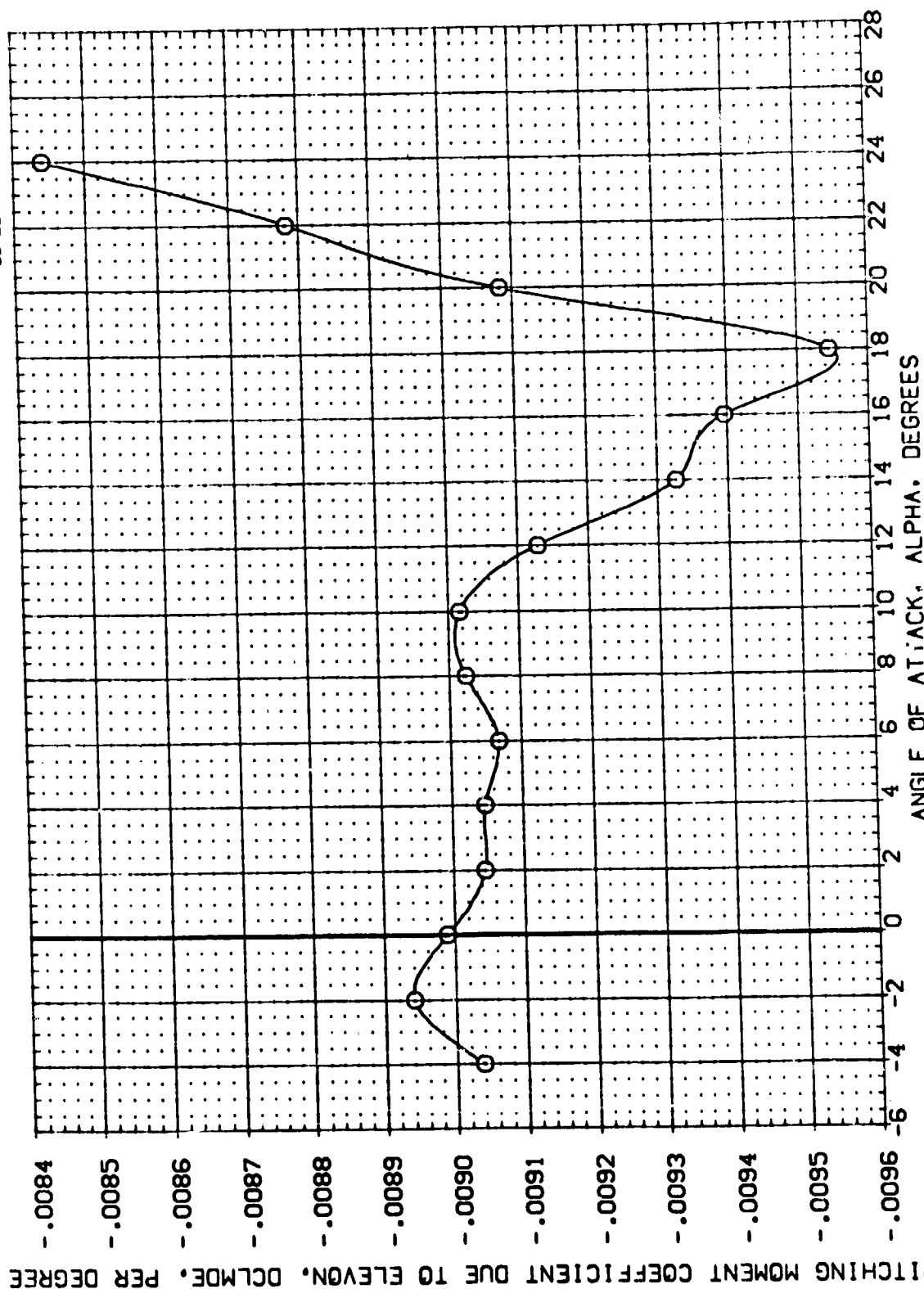


FIGURE 24 ELEVON EFFECTIVENESS WITH H10 CANARD

(A)MACH = .16

DATA SET SYMBOL: 8  
 CONFIGURATION DESCRIPTION: 0A21 817C7H11M4FS V107E23V7R6X19  
 0A21 817C7H11M4FS V107E23V7R6X19

ELEVON: 10.000  
 AIRLON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000  
 REFERENCE INFORMATION:  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XPRP: 43.5974 INCHES  
 YPRP: 16.2000 INCHES  
 ZPRP: .0405 INCHES  
 SCALE

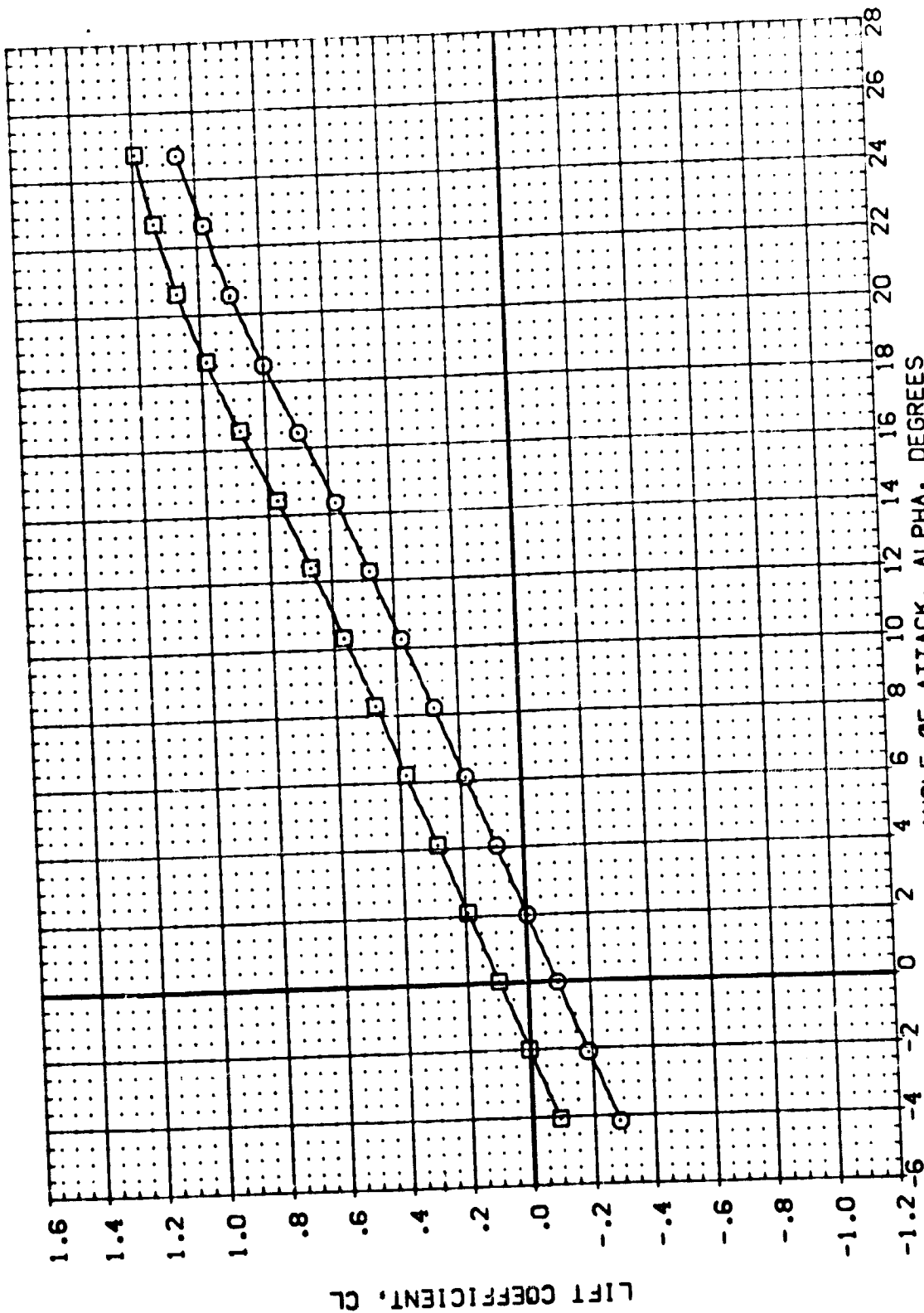


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 [01:58] [0A21] B17C7H11M4FS VIC7E23V7R6X9  
 [02:58] [0A21] B17C7H11M4FS VIC7E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2289 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP .0500 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

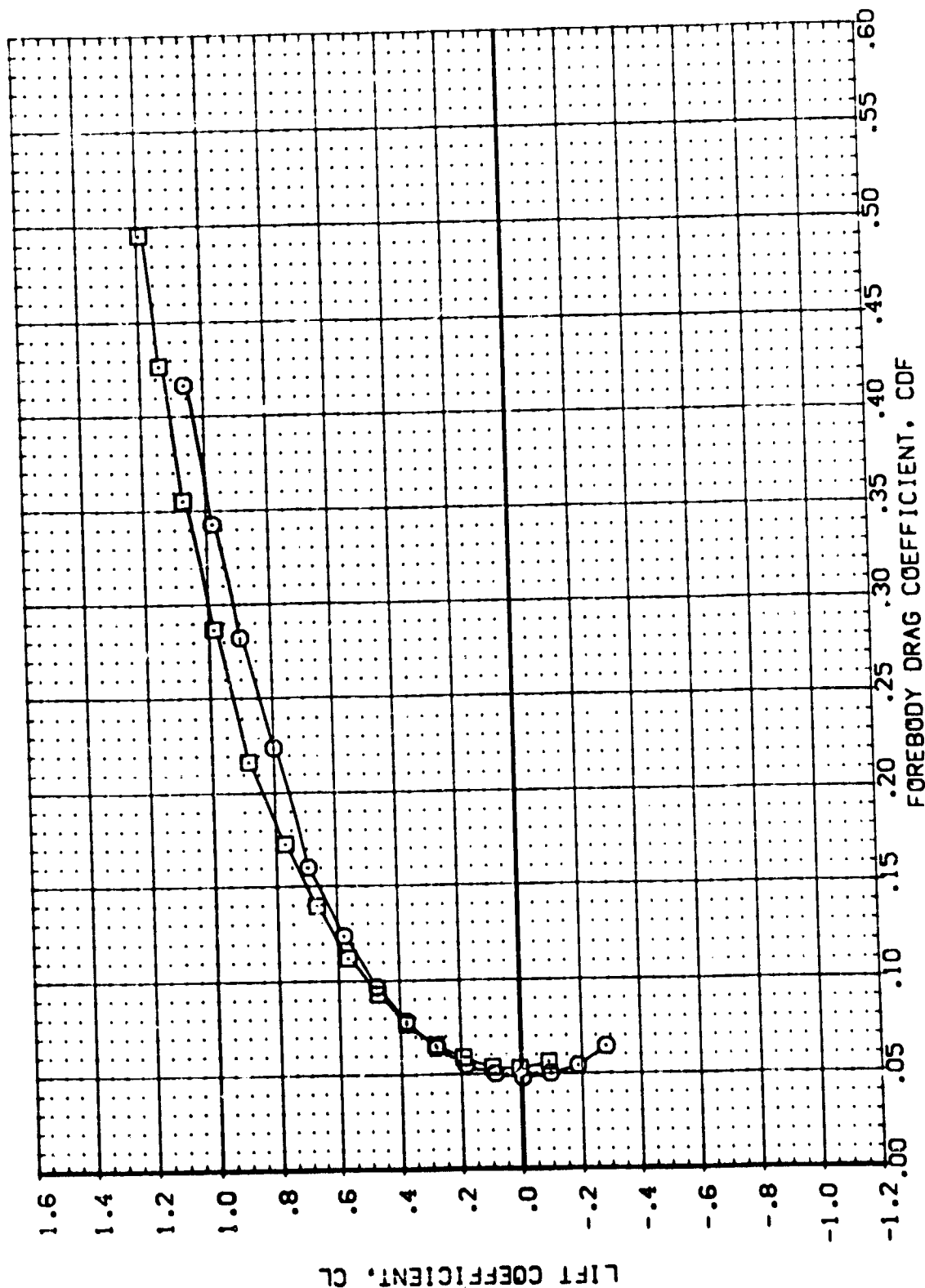


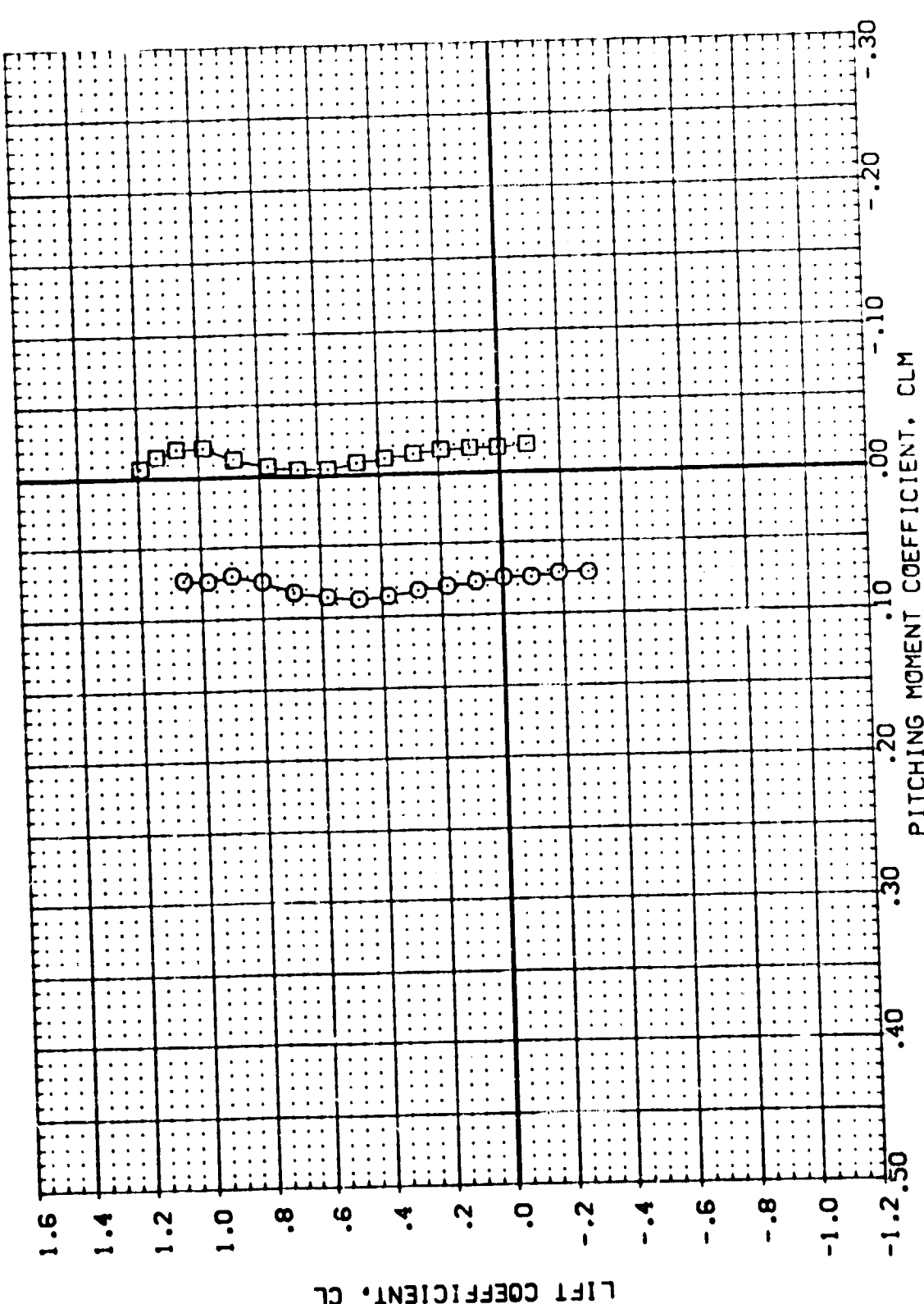
FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A) MACH = .16

DATA SET SYMBOL: 010P159  
 CONFIGURATION DESCRIPTION: 817C7M11M4F5 V107E23V7R6X9  
 0A21 817C7M11M4F5 V107E23V7R6X9  
 0A21 817C7M11M4F5 V107E23V7R6X9

ELEVON: 10.000  
 AILRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2289 INCHES  
 BREF: 37.9353 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405



DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (1DP158)    CA21    B17C7H11M4FS    V107E23V7R6X9  
 (1DP158)    CA21    B17C7H11M4FS    V107E23V7R6X9

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BRFF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    INCHES

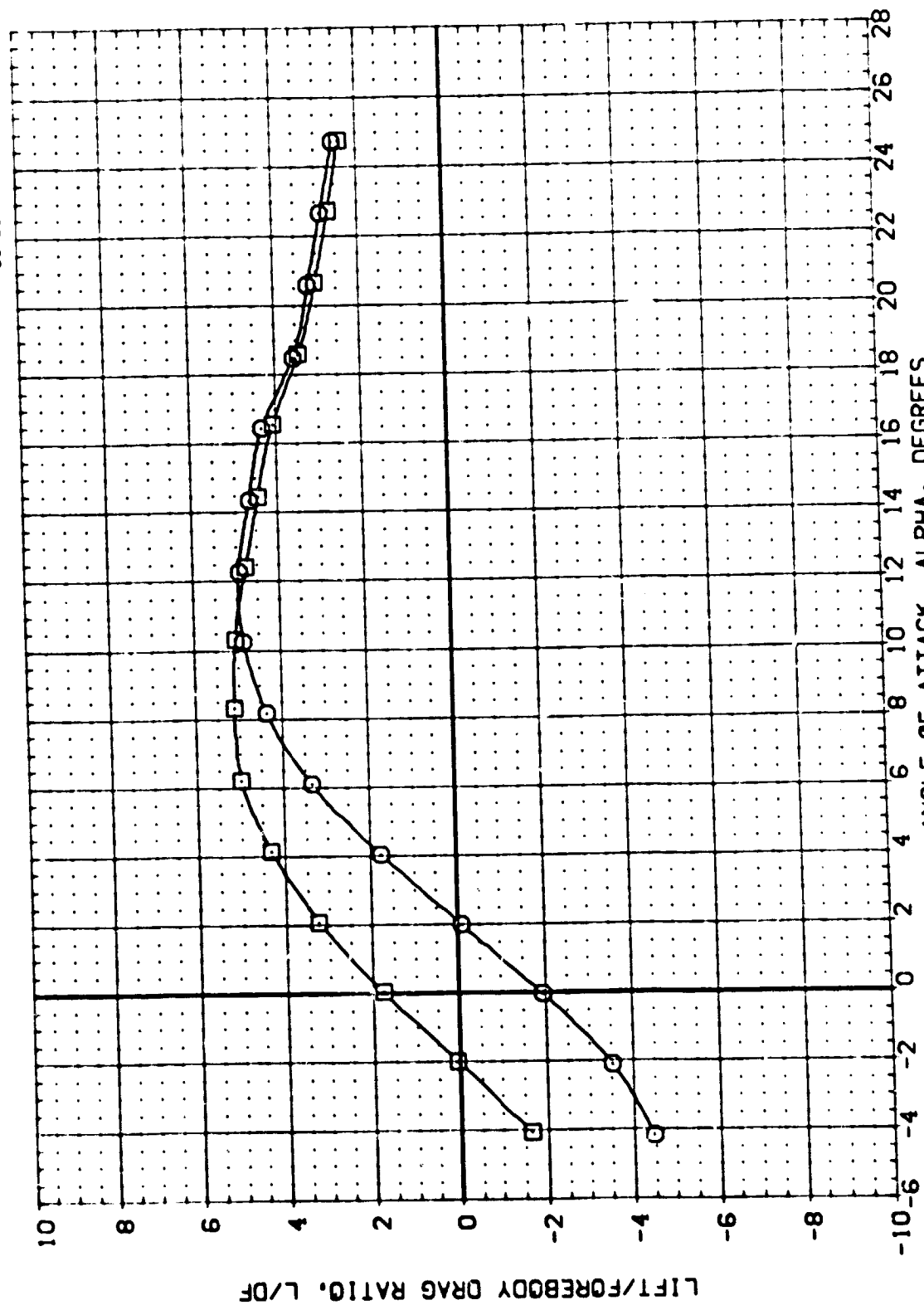


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16



DATA SET SYMBOL: 817C7H11M4F5  
 (DP159) 817C7H11M4F5  
 (DP158) 817C7H11M4F5

ELEVON AILRON BOFLAP SPDGRK  
 .000 .000 .000 55.000  
 10.000 .000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

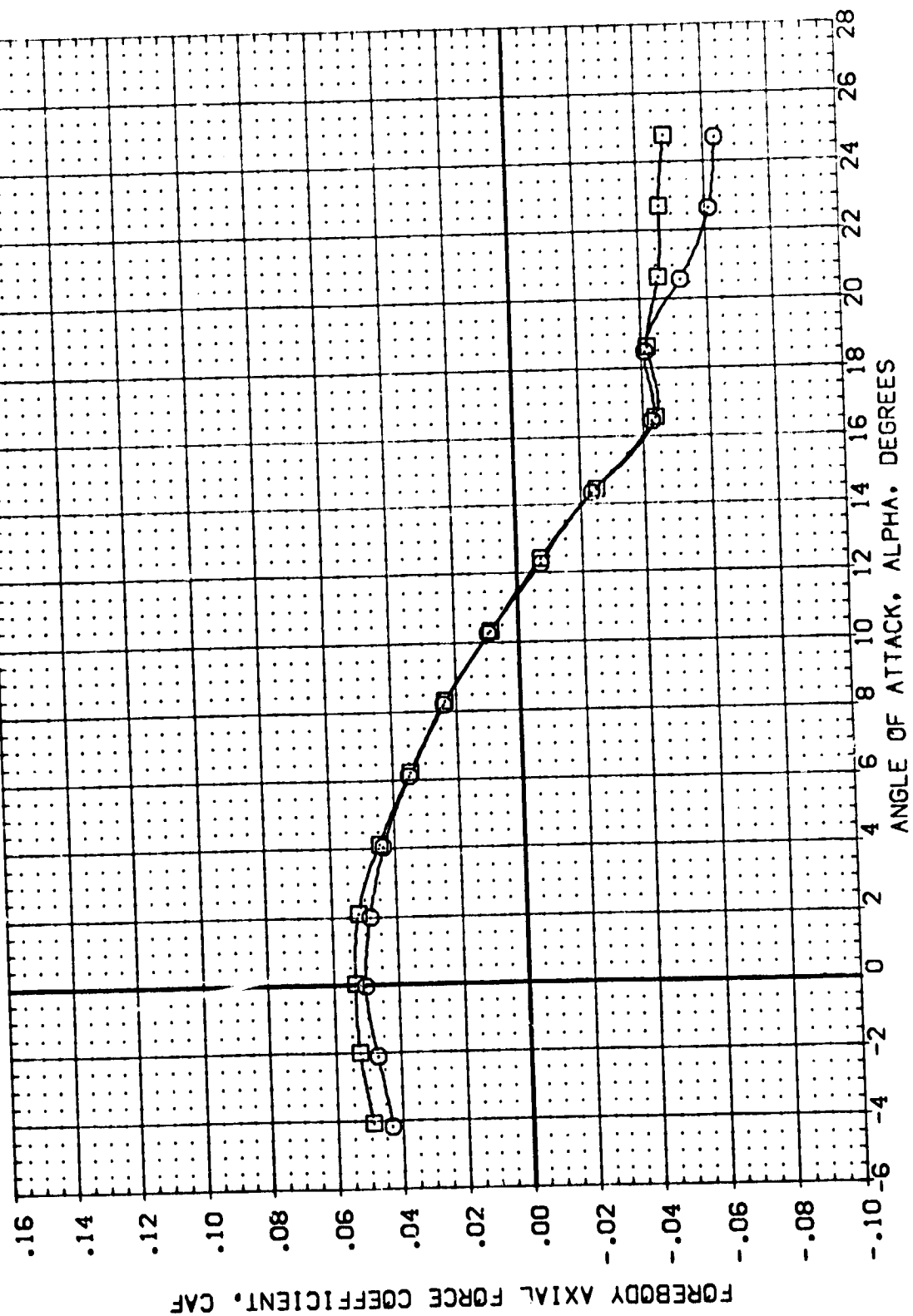


FIGURE 25 FLEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(10P159)	Q21	B17C7H11M4FS	V107E23V7R6XS	SREF	4.4119
(10P158)	Q21	B17C7H11M4FS	V107E23V7R6XS	LREF	19.2298
				BREF	37.9359
				XMRP	43.5974
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405

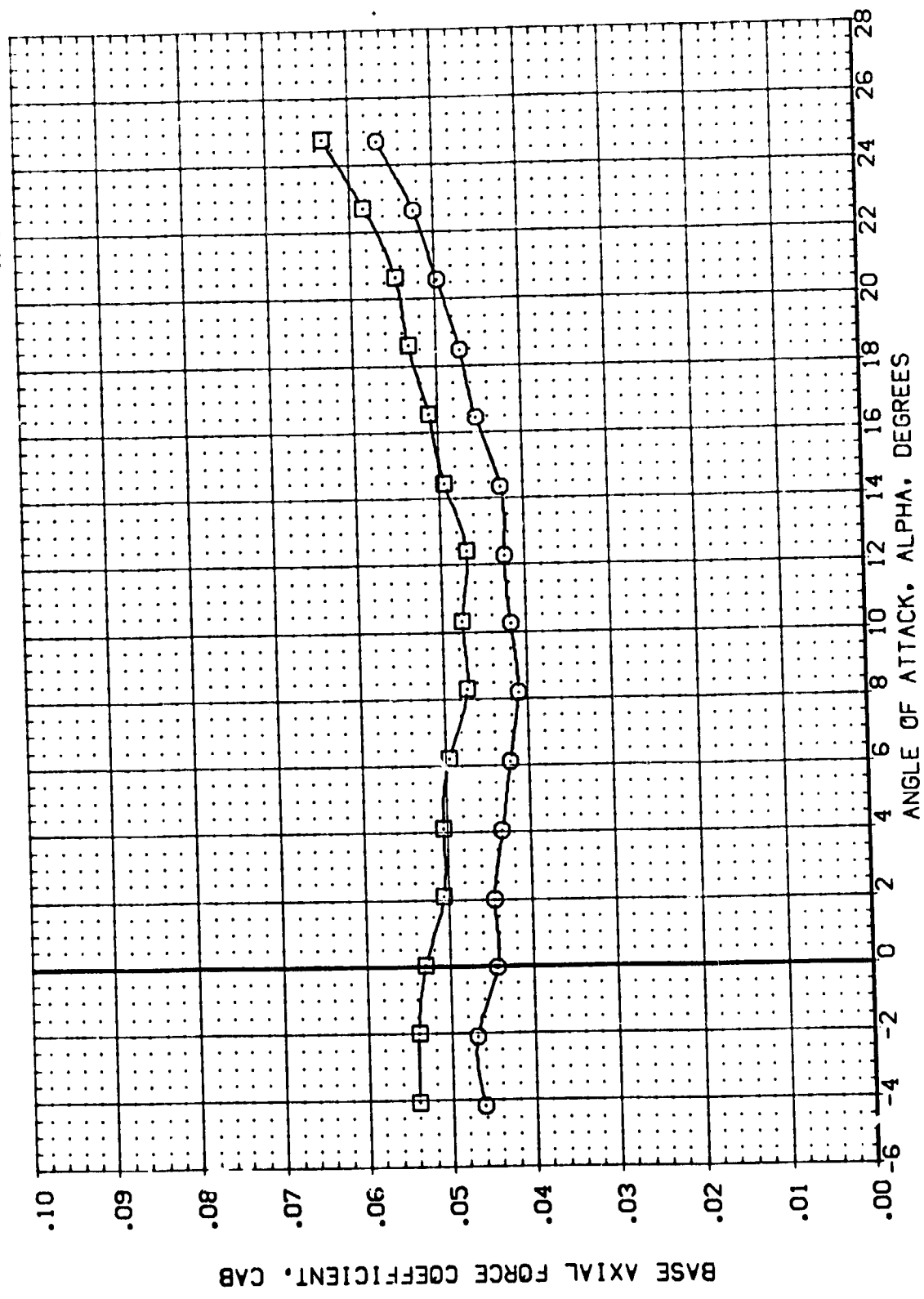


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16

DATA SET SYMBOL: 817C7H11M4FS 817C7H11M4FS  
 (1DP158) (1DP158)

CONFIGURATION DESCRIPTION

ELEVON: 10.000  
 ATLIRON: .000  
 BOFLAP: -18.000

SF03BRK: 55.000  
 55.000

REFERENCE INFORMATION  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5874 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

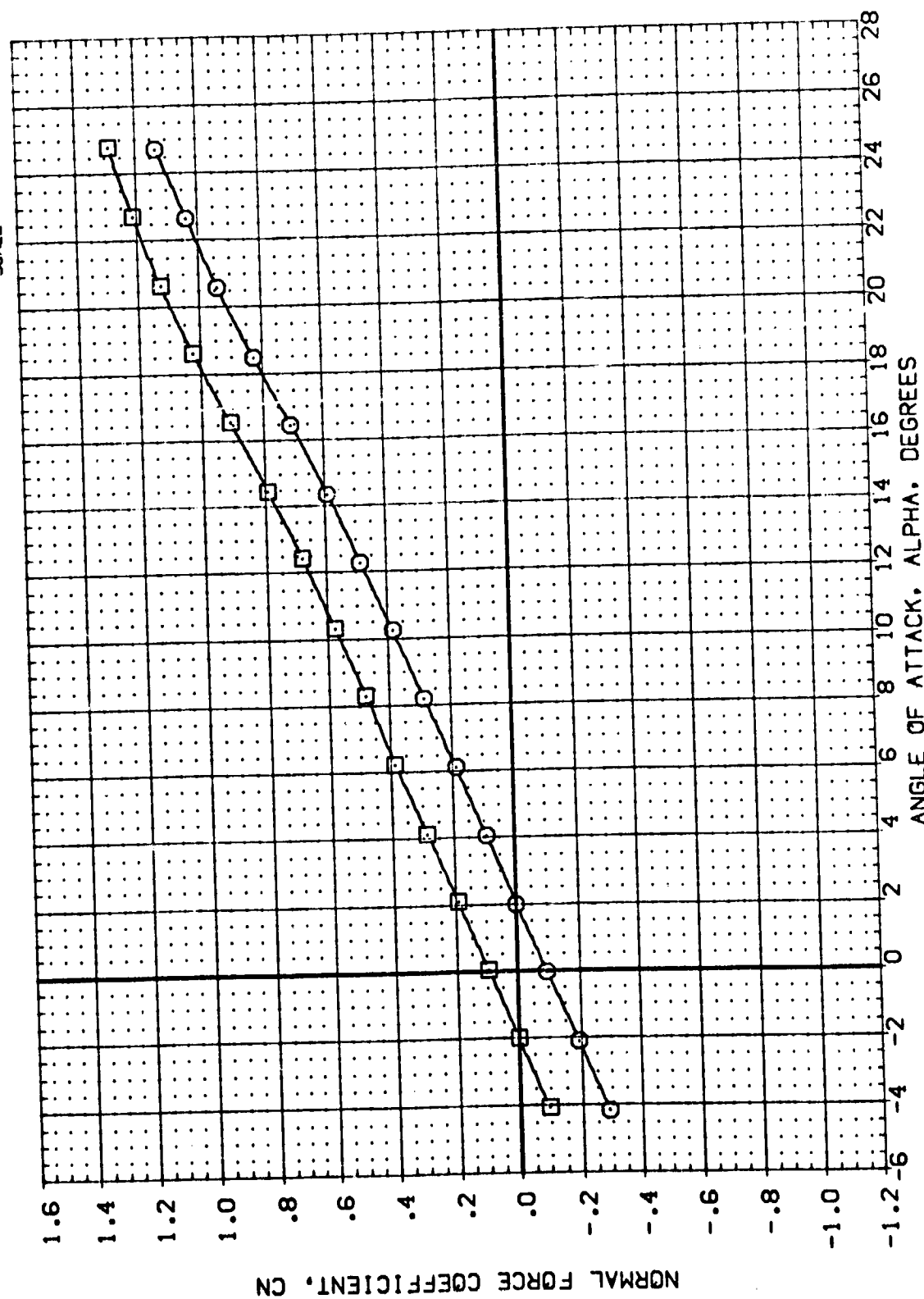


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(MACH = .16

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(IDP159)	CA21 817C411MAFS	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(IDP158)	CA21 817C411MAFS	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						YMRP 43.5974 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

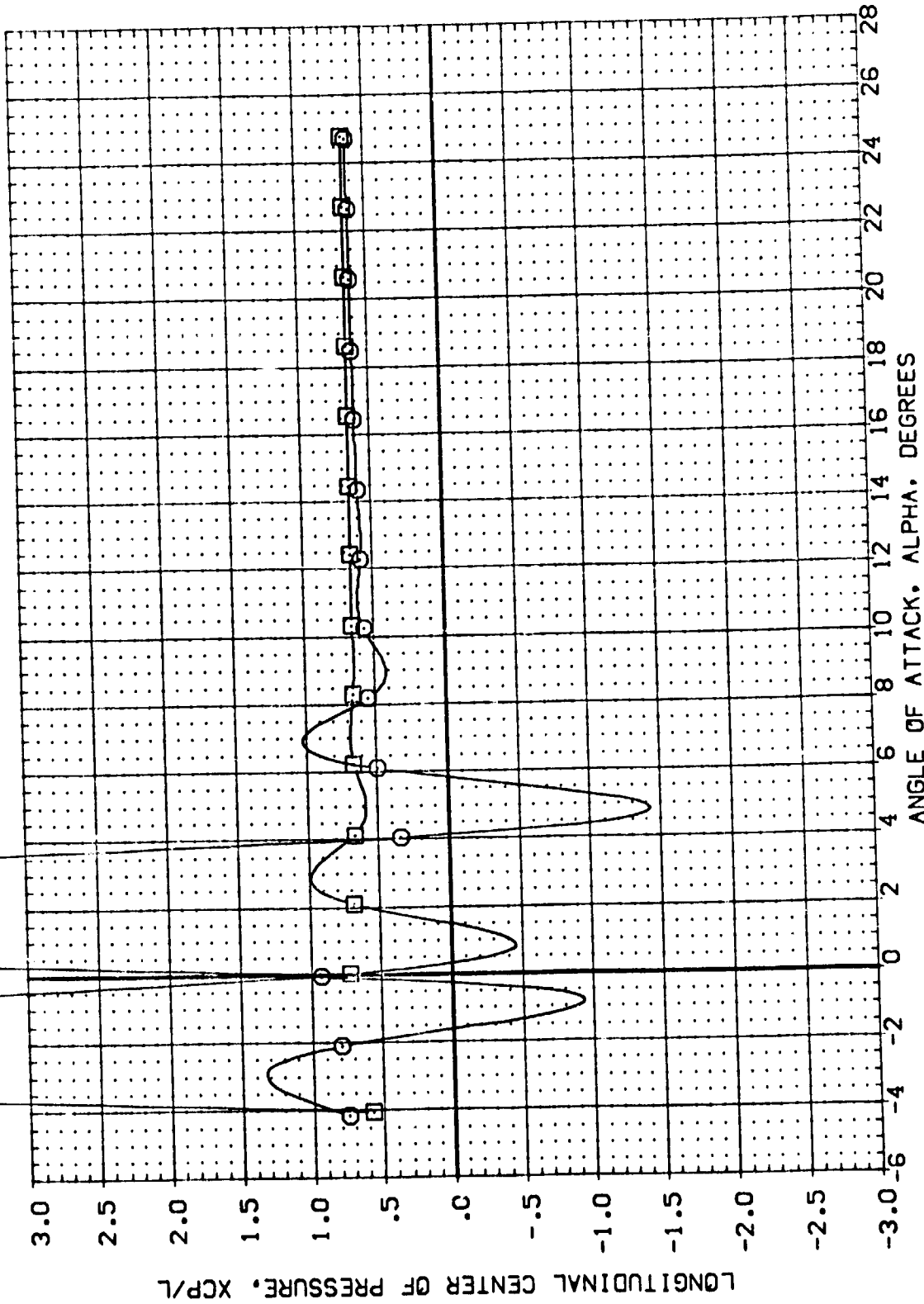


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21 B17C7H11M4F5 V107E23V7R6X9  
 ([DP159]) ([DP158])

CONFIGURATION DESCRIPTION  
 0A21 B17C7H11M4F5 V107E23V7R6X9  
 0A21 B17C7H11M4F5 V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2298 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

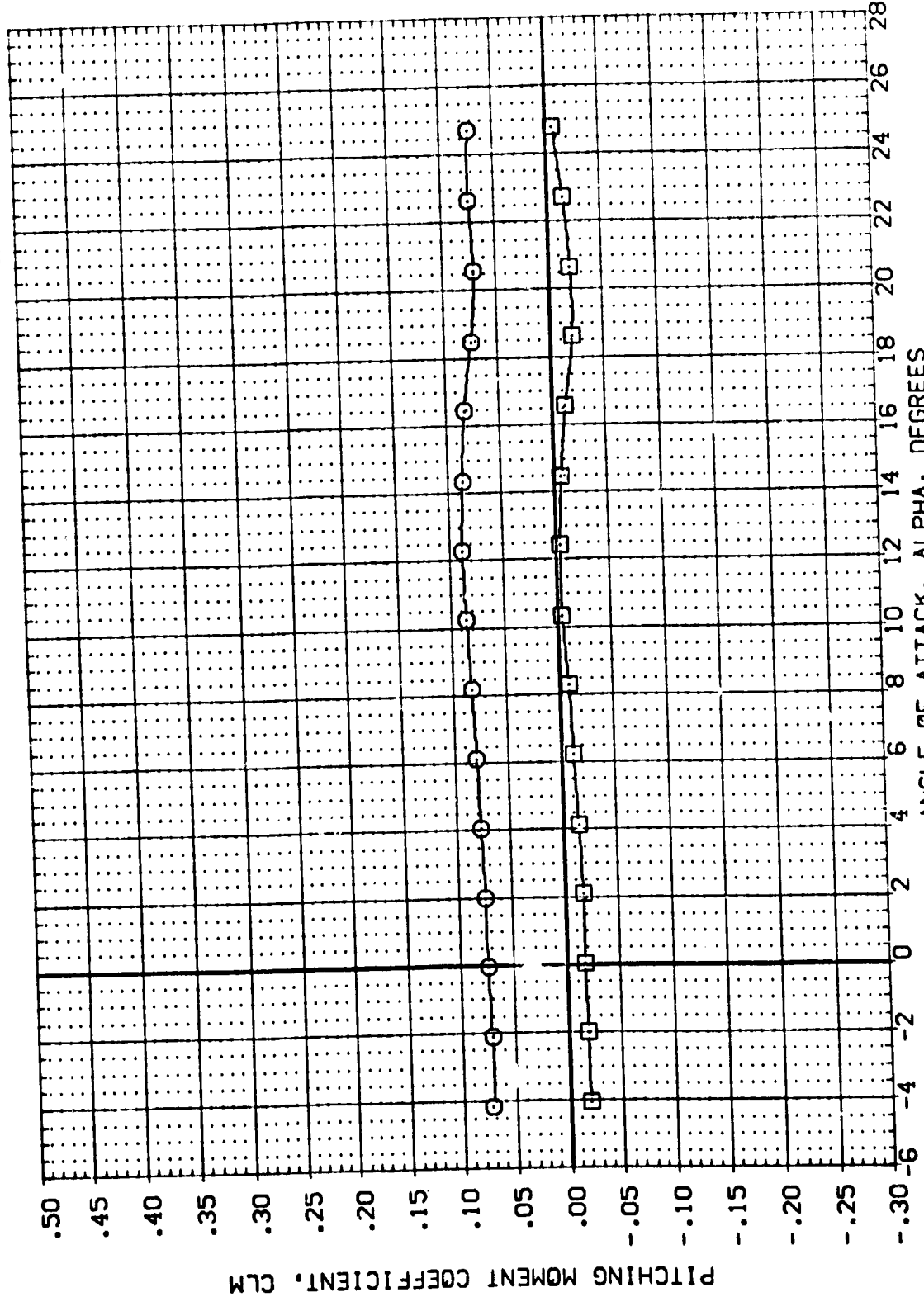


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(MACH = .16

DATA SET SYMBOL O 0A21 B17C7H11M4FS V107E23V7R6XS

MAXELE 10.000  
DELELE 10.000  
BOFLAP -18.000  
SPOBRK 55.000

REFERENCE INFORMATION  
SREF 4.4119 SO.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP 16.2000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

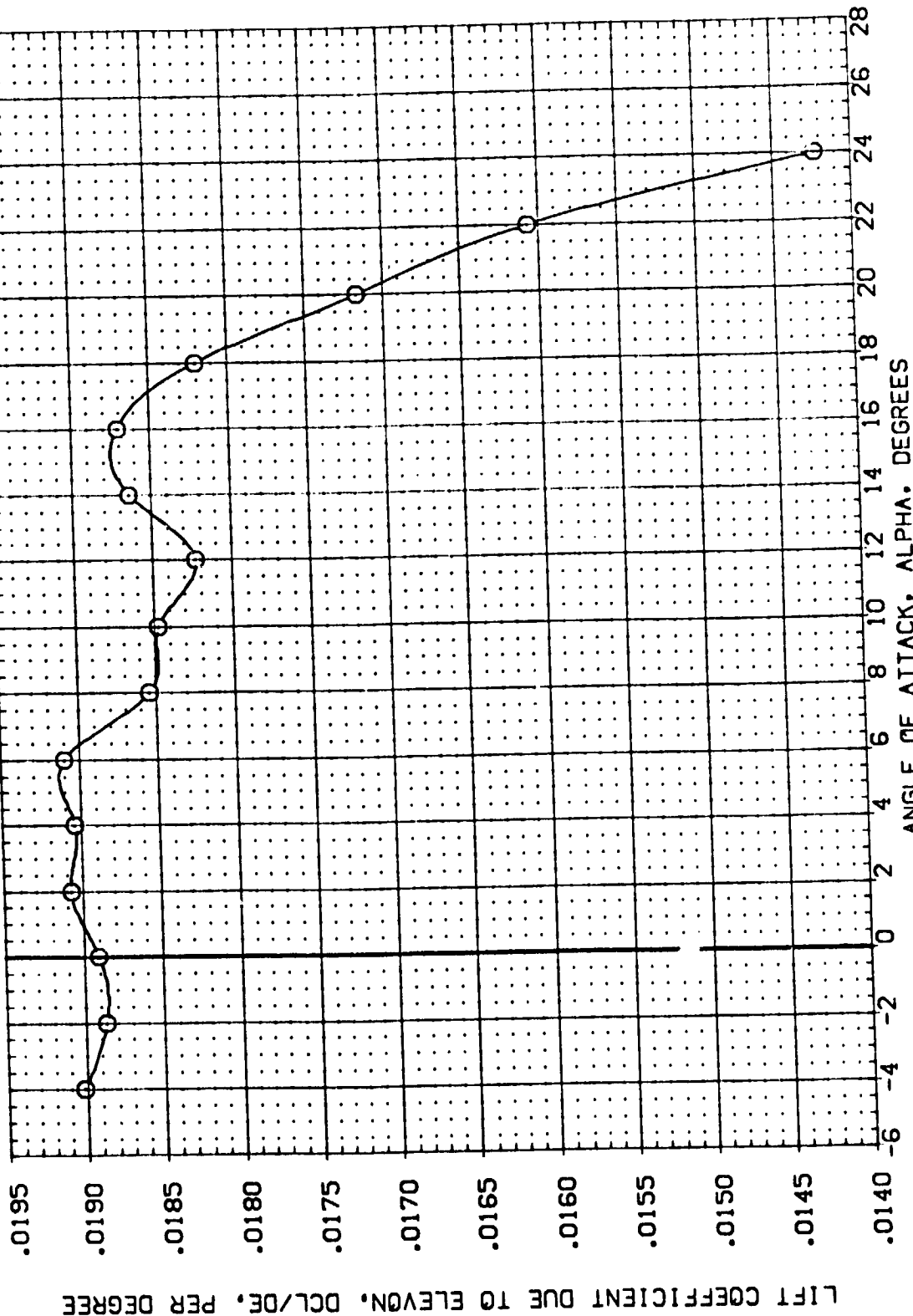


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16

DATA SET SYMBOL (COP158) O 0A21 817C7M11M4FS V107E23V7R6X9

MAXELE 10.000 DELELE 10.000 BOFLAP 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SO.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 0.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

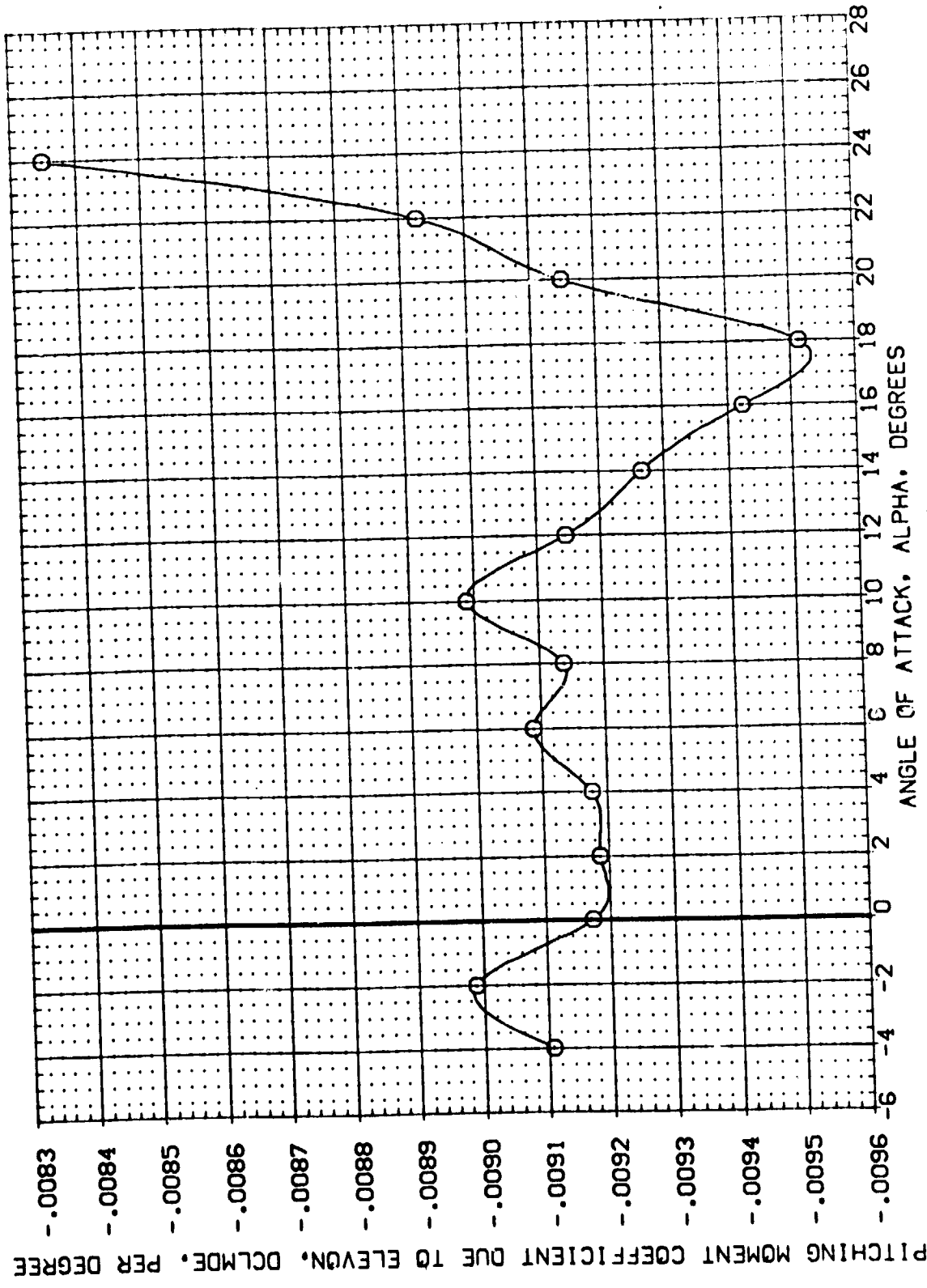


FIGURE 25 ELEVON EFFECTIVENESS WITH H11 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21  
 CONFIGURATION DESCRIPTION: B17C7H12M4FS V107E23V7R6X9  
 (DP142) 0A21 B17C7H12M4FS V107E23V7R6X9  
 (DP:55)

ELEVON: 10.000  
 AIRLON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

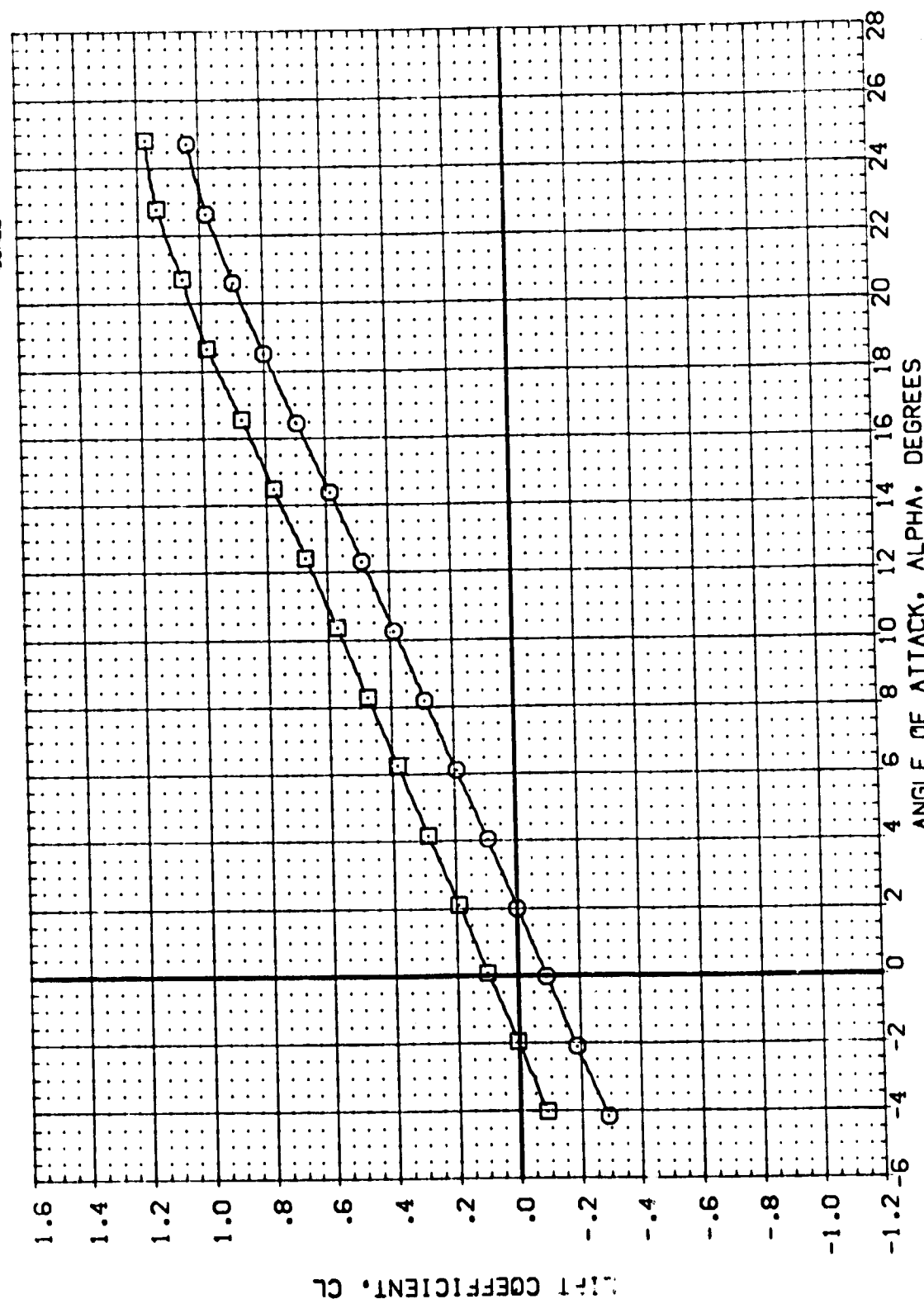


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16



REFERENCE INFORMATION	
REF	4.4119 SO.FT.
REF	19.2299 INCHES
REF	37.9359 INCHES
WHP	43.5974 INCHES
WHP	.0000 INCHES
WHP	16.2000 INCHES
SCALE	.0405 SCALE

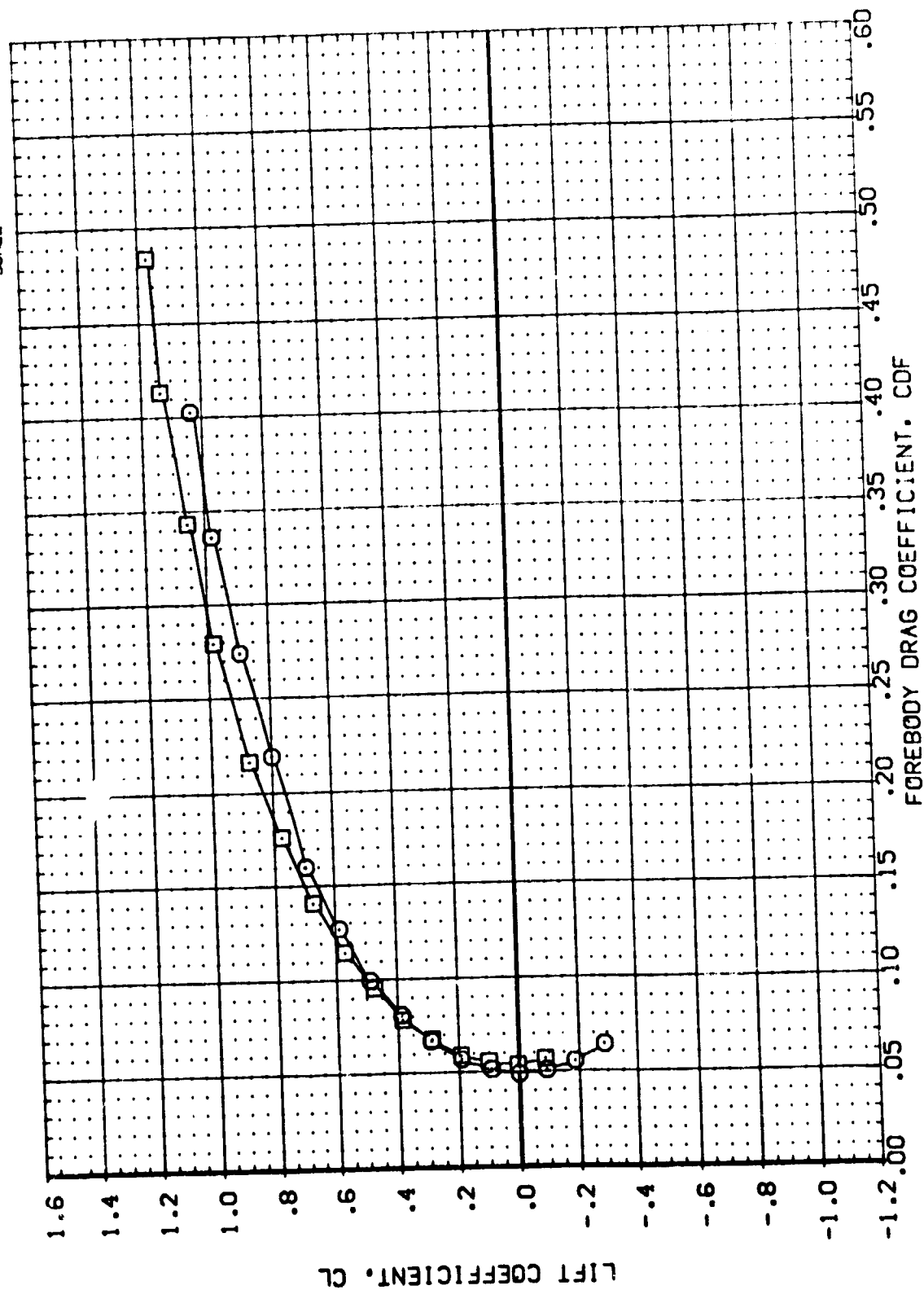
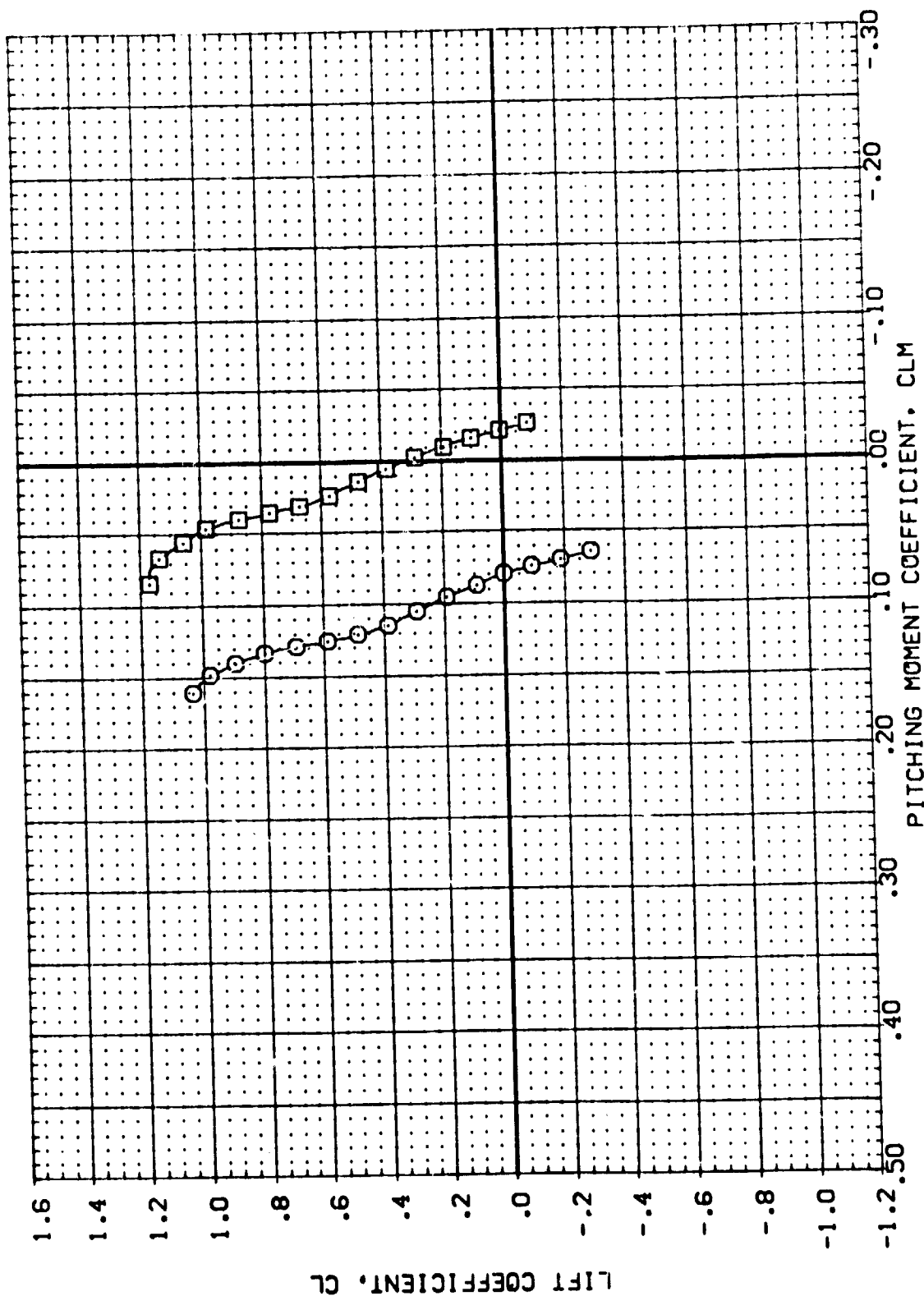


FIGURE 26 ELEVEN EFFECTIVENESS WITH H12 CANARD

$$C_A \geq MACH = .16$$

DATA SET SYMBOL: 10P142  
 CONFIGURATION DESCRIPTION: B17C7H12M4FS V107E23V7R6X9  
 REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

ELEVON: 10.000  
 ALLRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10142) 0A21 817C7H12H4FS V107E23V7R6X3  
 (10155) 0A21 817C7H12H4FS V107E23V7R6X3

ELEVON AILRON BOFLAP SPOBRK  
 10.000 .000 .000 55.000  
 10.000 .000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405 SCALE

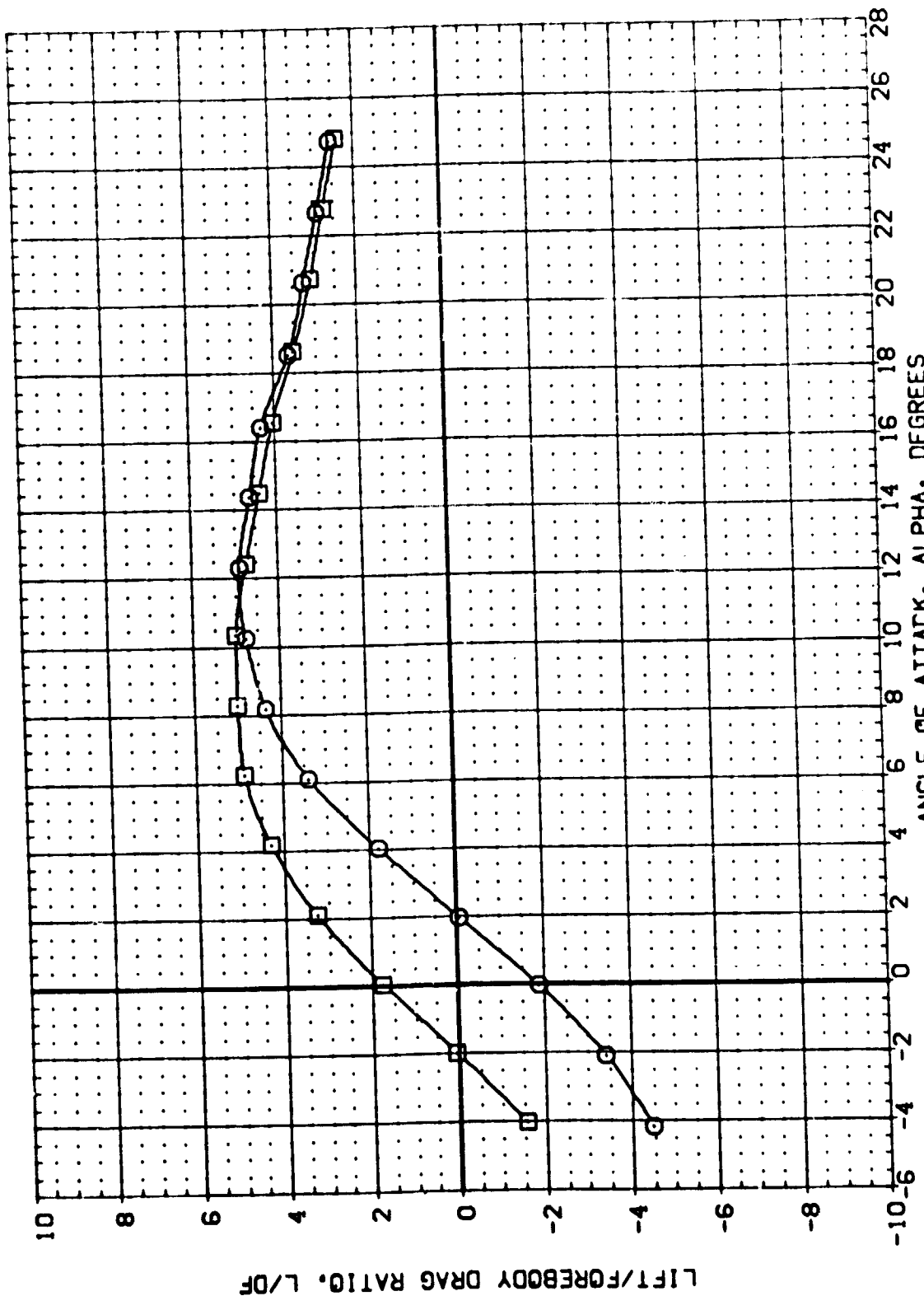


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD  
 (A)MACH = .16

DATA SET SYMBOL: 817C7M1ZM4F5  
 CONFIGURATION DESCRIPTION: V107E23V7R6A9  
 (ID:142) 817C7M1ZM4F5 V107E23V7R6A9  
 (ID:55) 817C7M1ZM4F5 V107E23V7R6A9

ELEVON: .000  
 AIRRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5574 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

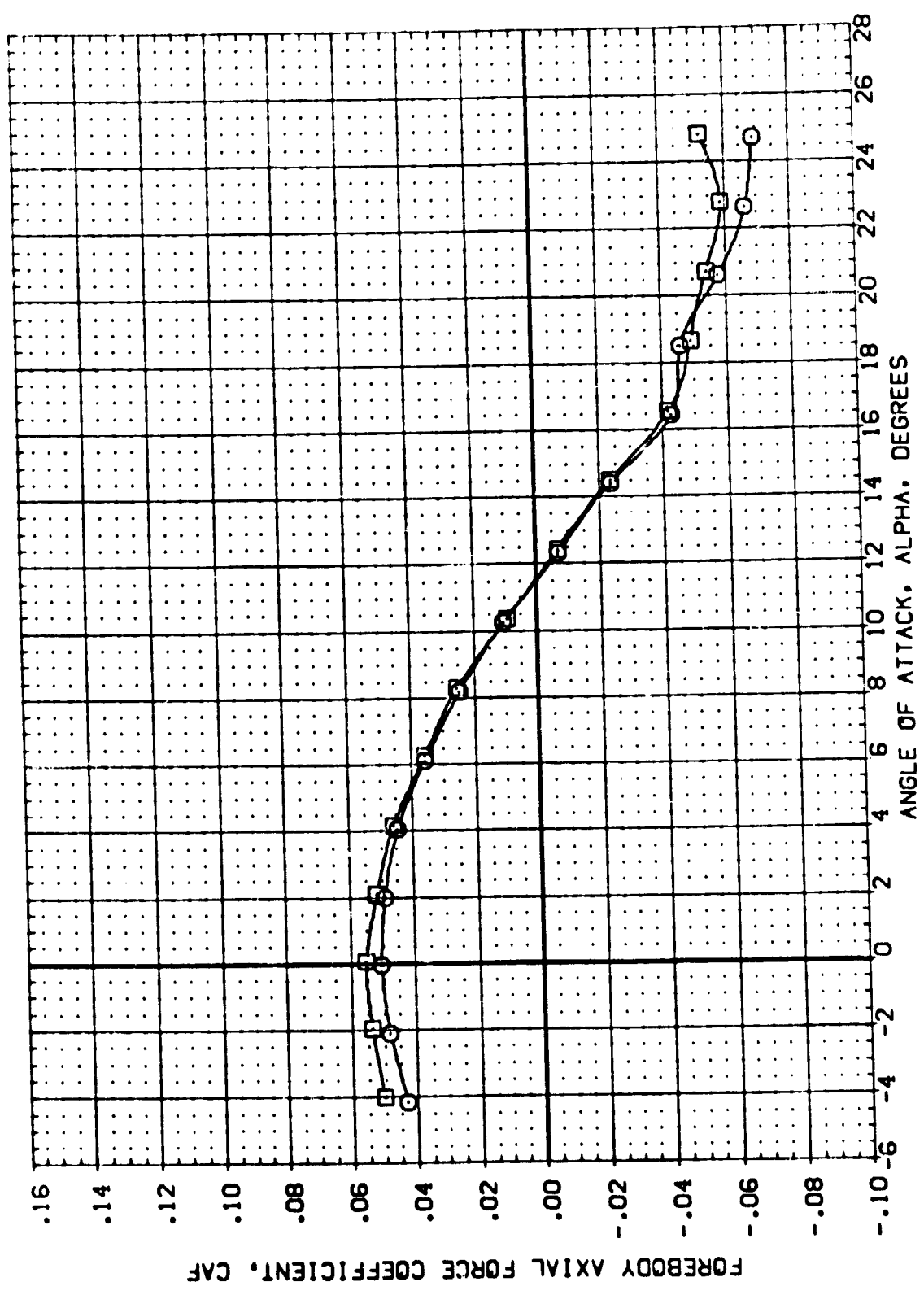


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(M)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (10P142) 8 0A21 817C7M12M1F5 V107E23V7M5S  
 (10P155) 8 0A21 817C7M12M1F5 V107E23V7M5S

ELEVON AILRON BOFLAP SPOBRK  
 10.000 .000 .000 55.000  
 .000 .000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2798 INCHES  
 BREF 37.5359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

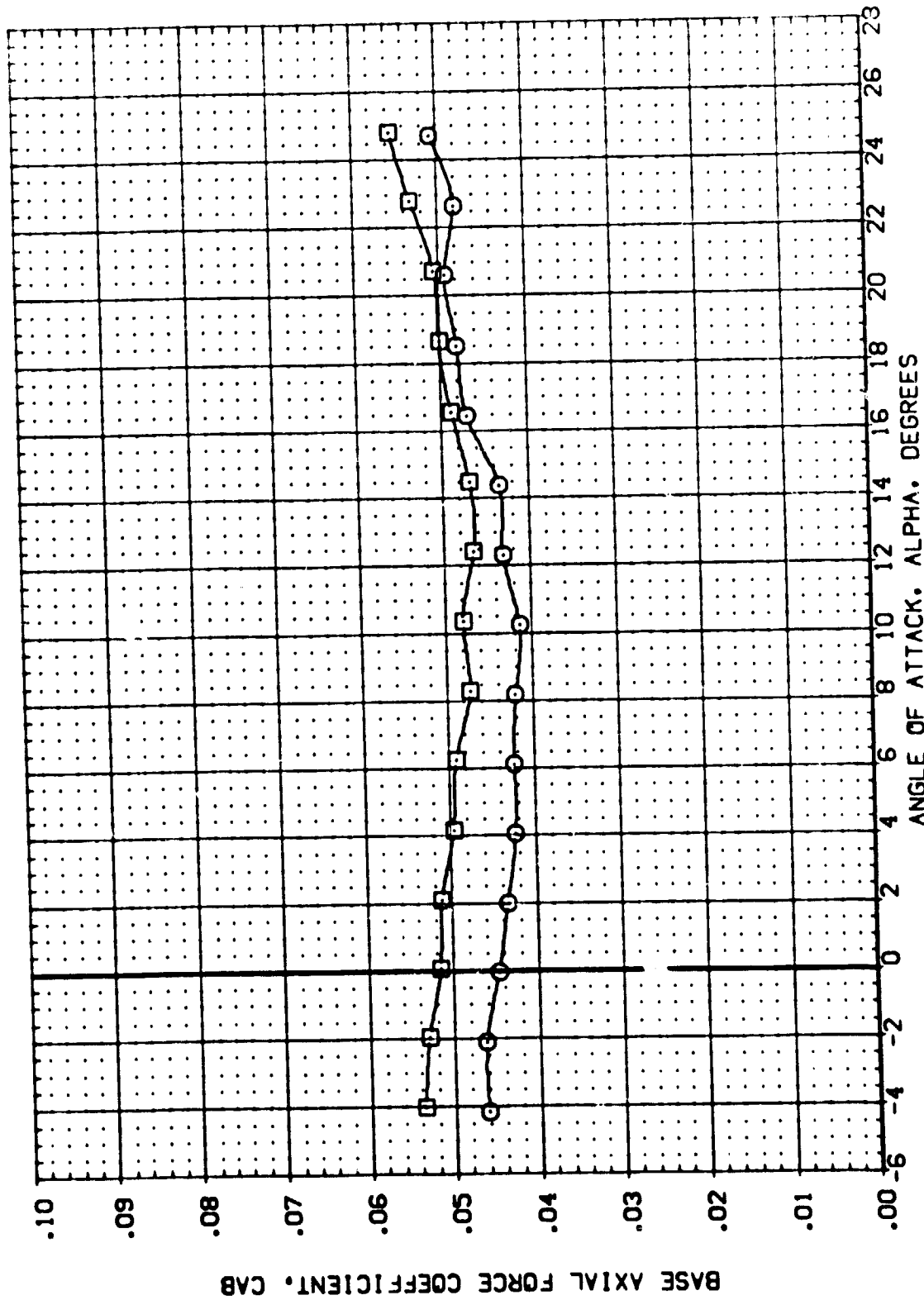


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP142)	□	DA21	B17C7M1214FS	SREF	4.4119
(IDP155)	□	DA21	B17C7M1244FS	LREF	9.2269
				BREF	37.9359
				XMRP	43.5974
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405
					SCALE

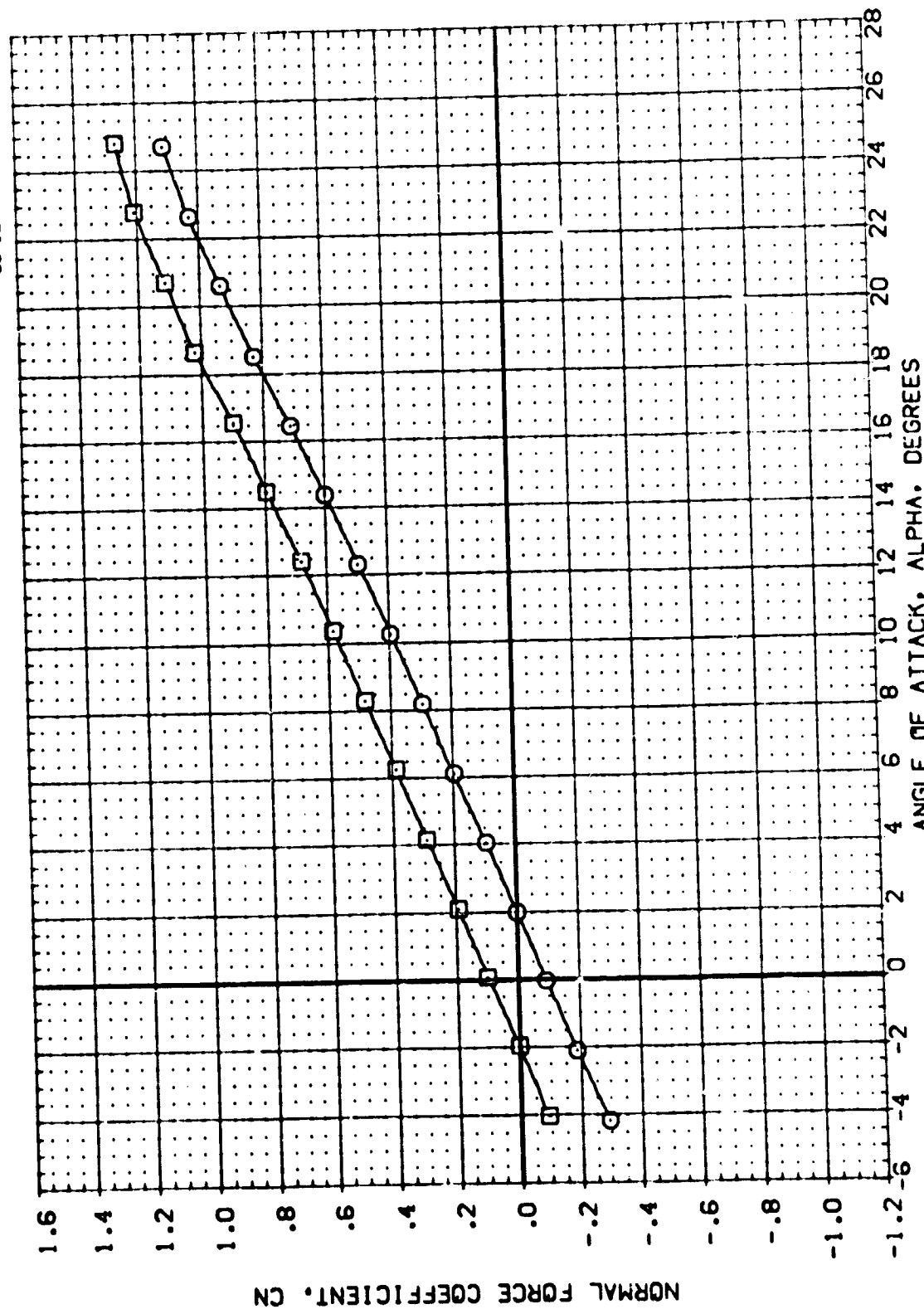


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(IDP142) □ 0A21 817CN12MFS V107E2B76X9

(IDP155) □ 0A21 817CN12MFS V107E2B76X9

ELEVON AILRON BOFLAP SPOBRK

.000 .000 .000 55.000

10.000 -18.000 -18.000 55.000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2299 INCHES

BREF 37.9355 INCHES

XMRP 43.5974 INCHES

YMRP .0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405 SCALE

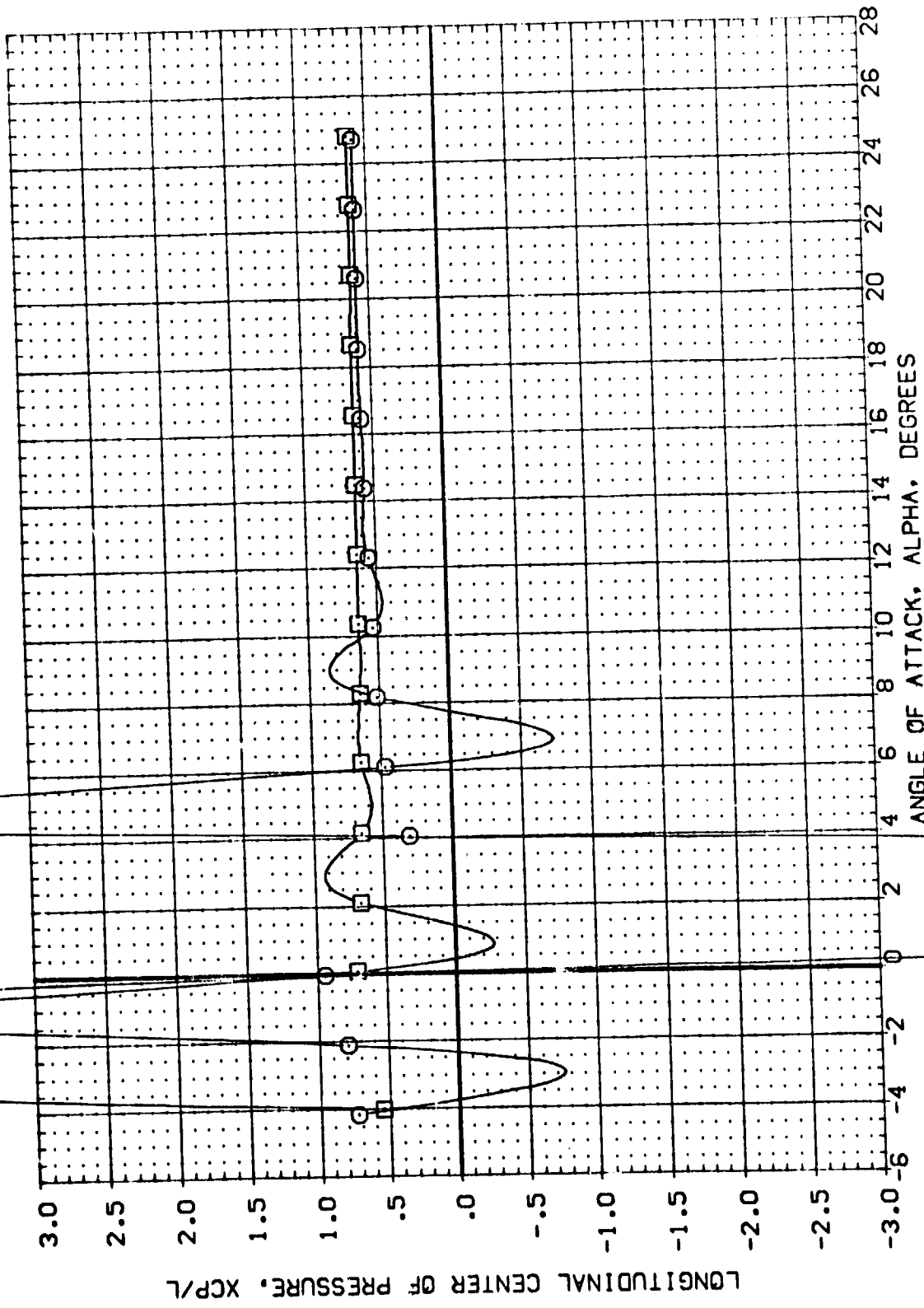


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (DP142)    0A21    B17C7H12M4FS    V107E23V7R6XS  
 (DP155)    0A21    B17C7H12M4FS    V107E23V7R6XS

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    INCHES

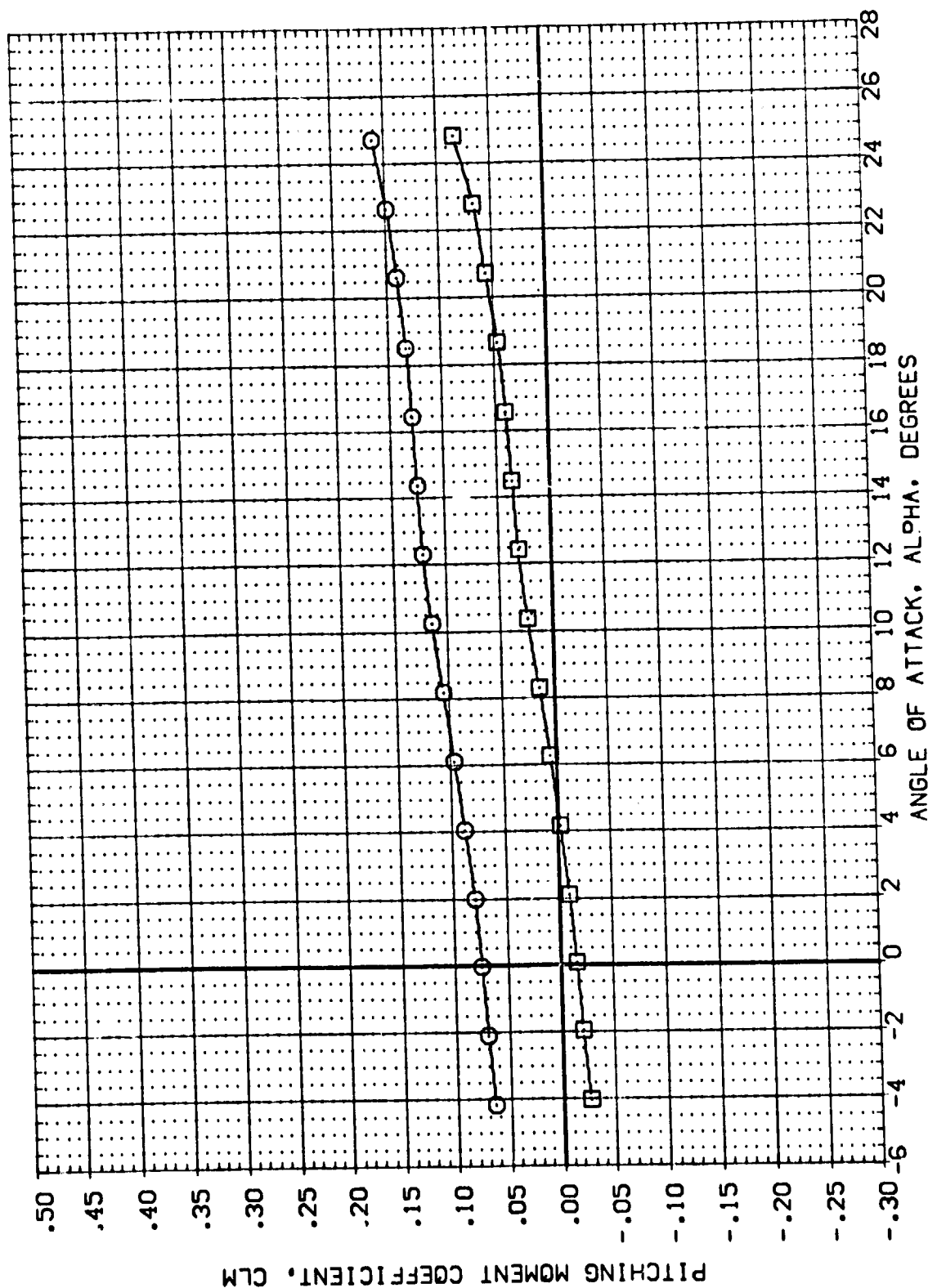


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16



DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (00P155)    ○    OA21    B17C7H12M4FS    V107E23V7R6X9

MAXELE    DELELE    BDFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

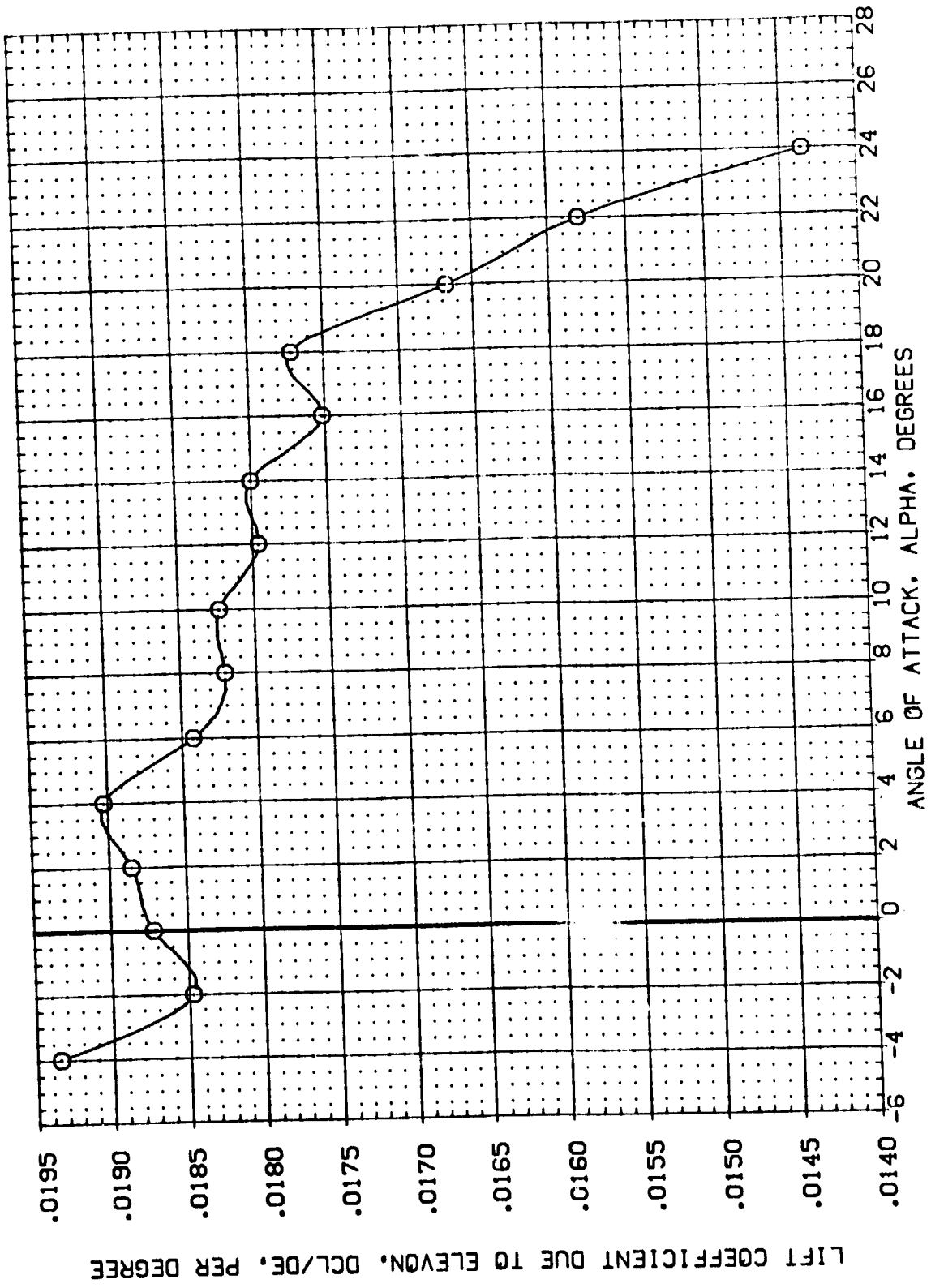


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (OOP155)    ○    0A21    B17C7H12M4F5    V107E23V7R6X9

MAXELE    DELELE    BOFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 YMRP    43.5974    INCHES  
 YMRP    43.0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

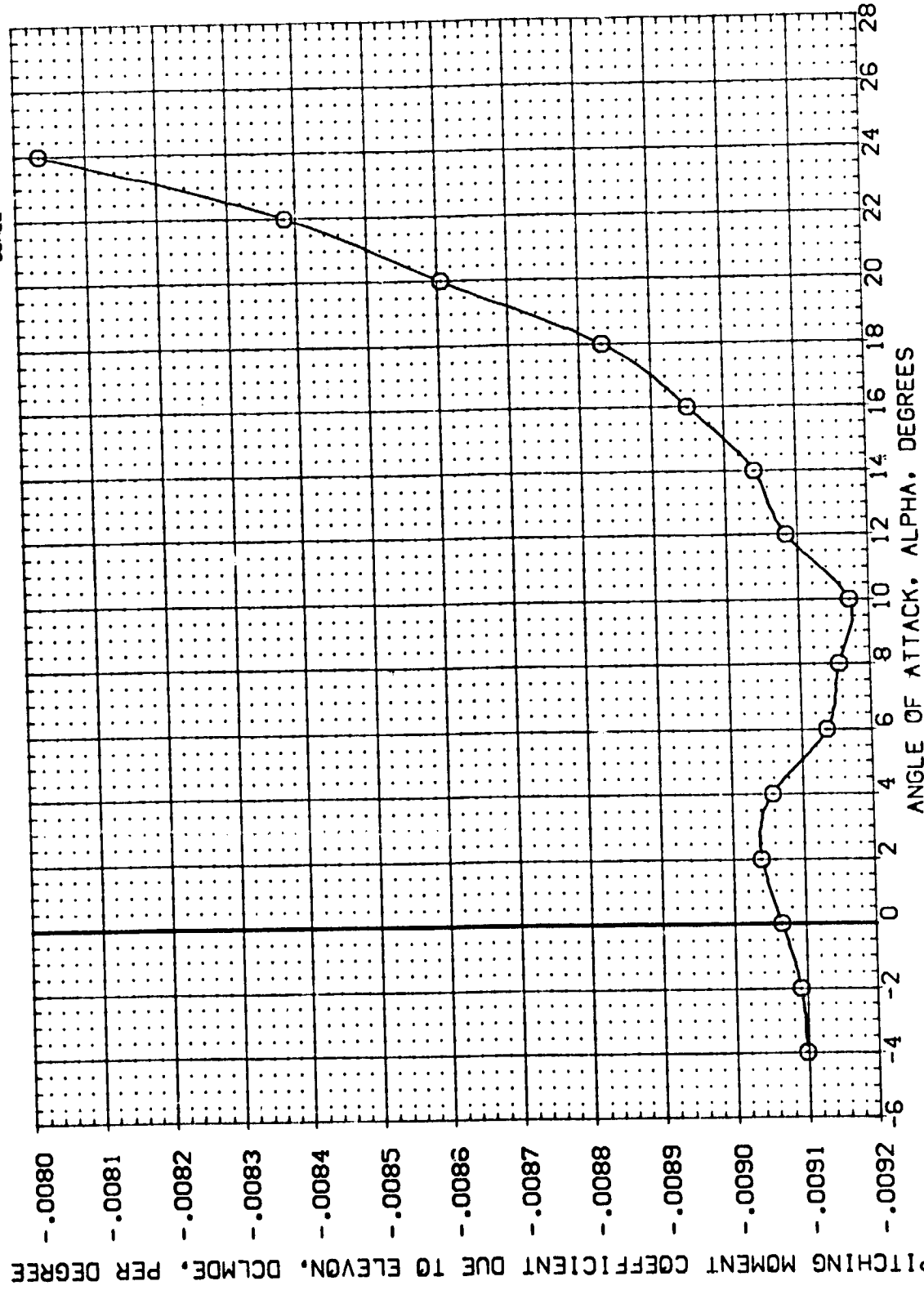


FIGURE 26 ELEVON EFFECTIVENESS WITH H12 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (10P143)    □    0A21    817C7H13M4FS    V107E23V7R6X9  
 (10P154)    □    0A21    817C7H13M4FS    V107E23V7R6X9

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    50. FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

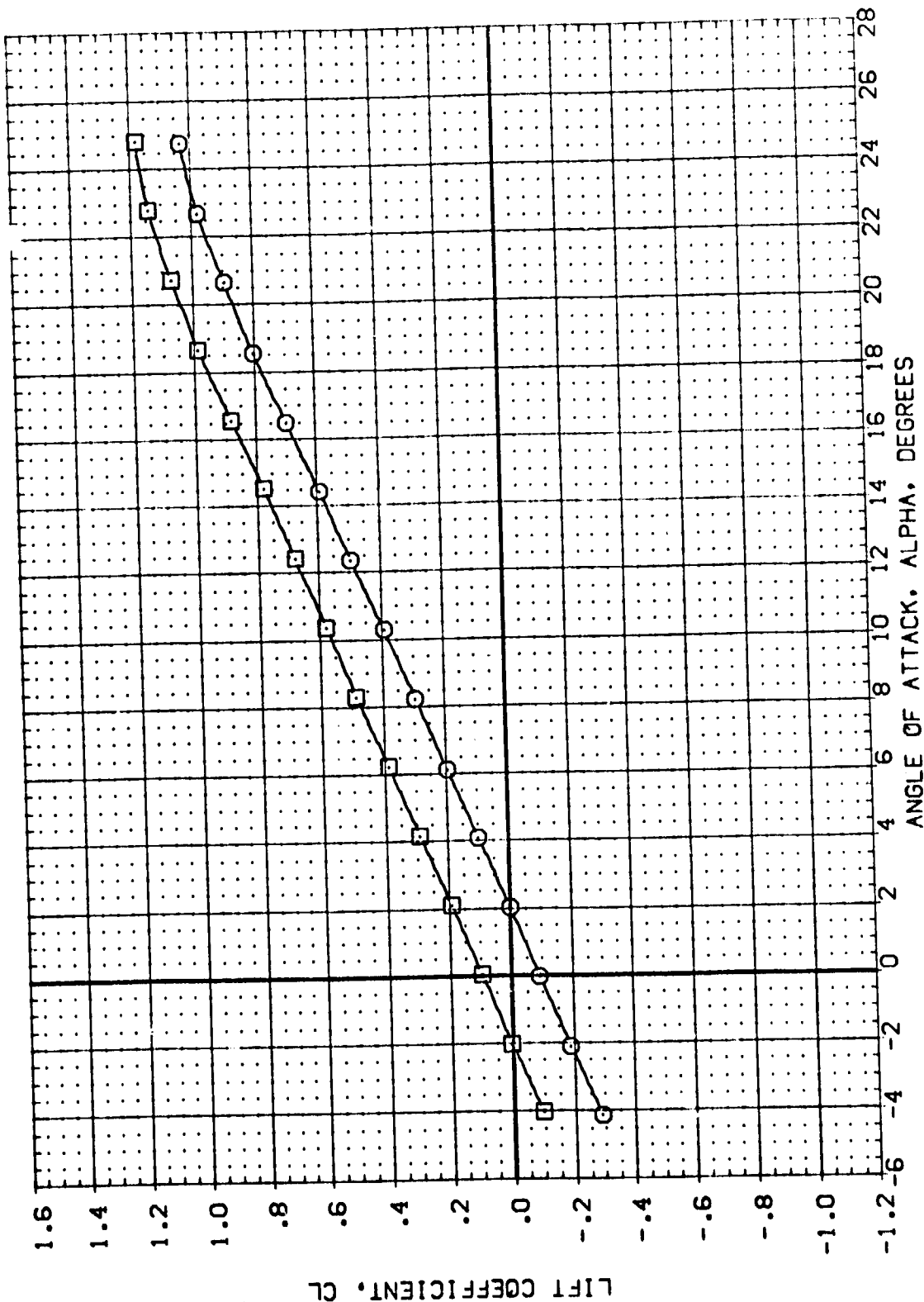


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AIRLON		BDFLAP		SPOBRK		REFERENCE INFORMATION	
(IDP143)	CA21	B17C7H13M4F5	V107E23V7R6X9	.000	.000	-18.000	55.000	SREF	4.4119	SG.FT.			
(IDP154)	CA21	B17C7H13M4F5	V107E23V7R6X9	10.000	.000	-18.000	55.000	LREF	19.2289	INCHES			
								BREF	37.9359	INCHES			
								XMRP	43.5974	INCHES			
								YMRP	.0000	INCHES			
								ZMRP	16.2000	INCHES			
								SCALE	.0405	SCALE			

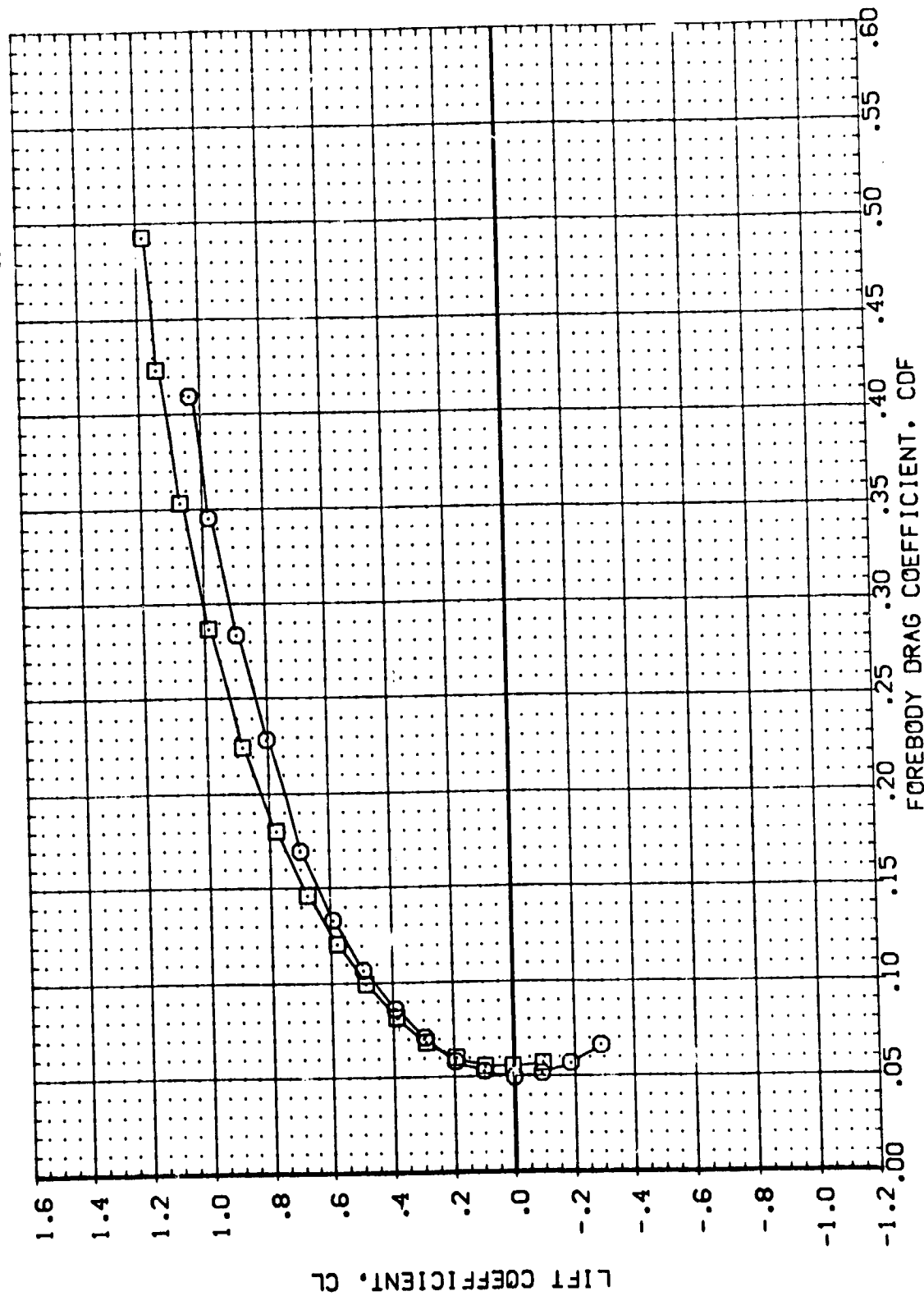


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (IDP143)    CA21    B17C7H13M4FS    V107E23V7R6XS  
 (IDP154)    CA21    B17C7H13M4FS    V107E23V7R6XS

ELEVON    AIRLON    BDFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 15.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2298    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

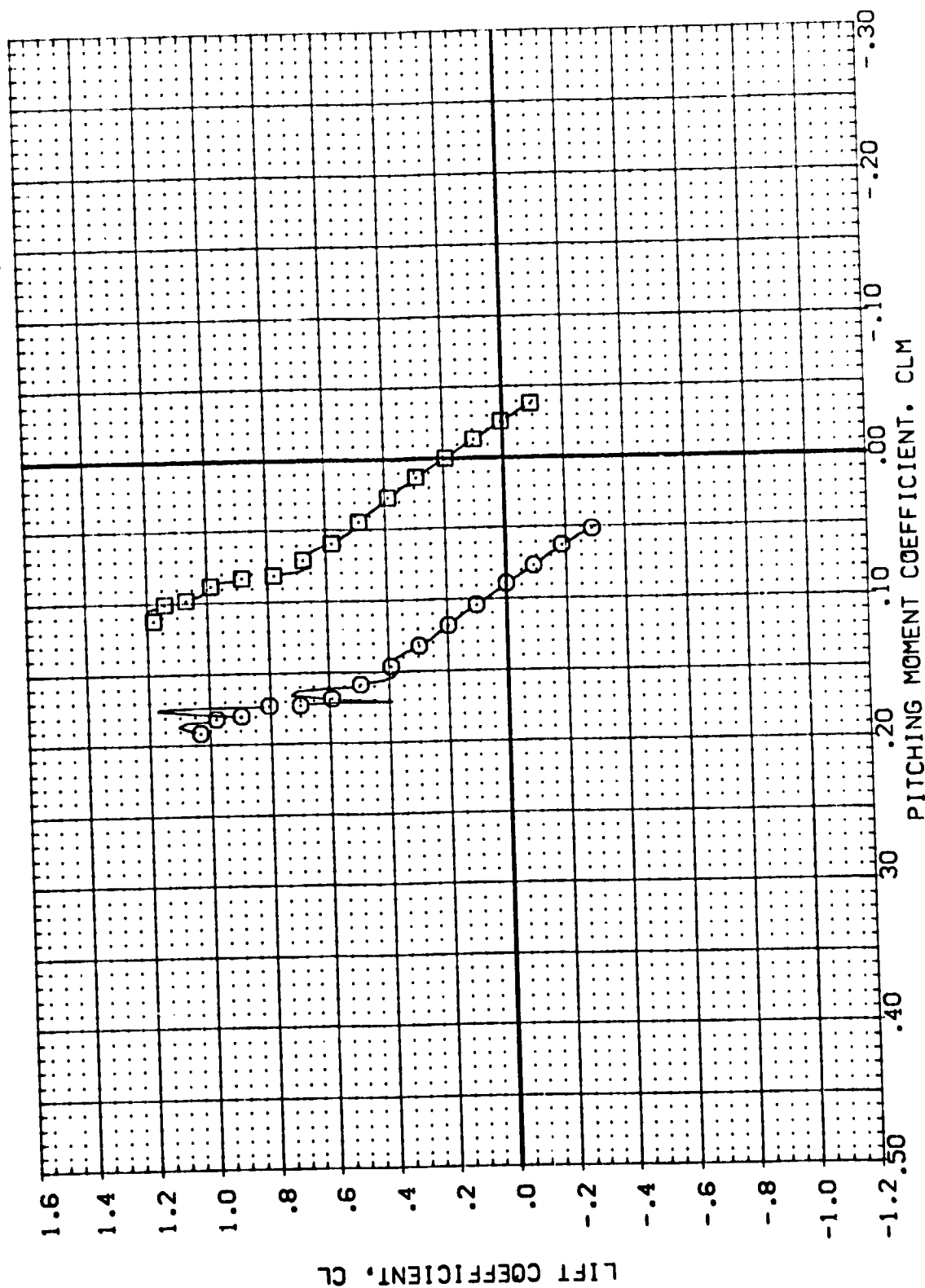


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMCL. CONFIGURATION DESCRIPTION  
 (DP143) DA21 B17C7H13M4FS V107E23V7R6X9  
 (DP154) DA21 B17C7H13M4FS V107E23V7R6X9

ELEVON ALLRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

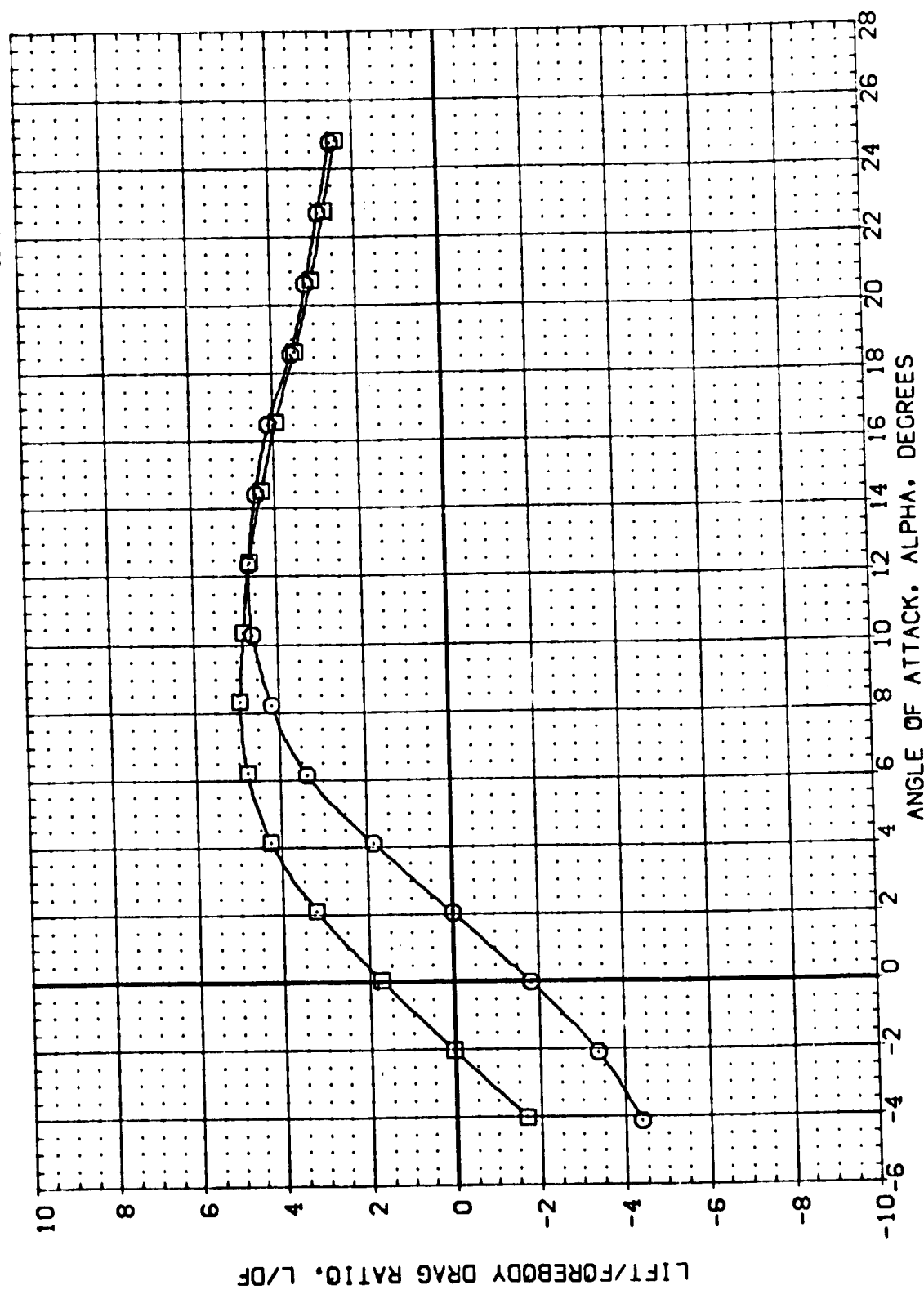


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(MACH = .16)

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (DP143) 0A21 817C7M13M4FS V107E23V7R6XS  
 (DP154) 0A21 817C7M13M4FS V107E23V7R7XS

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

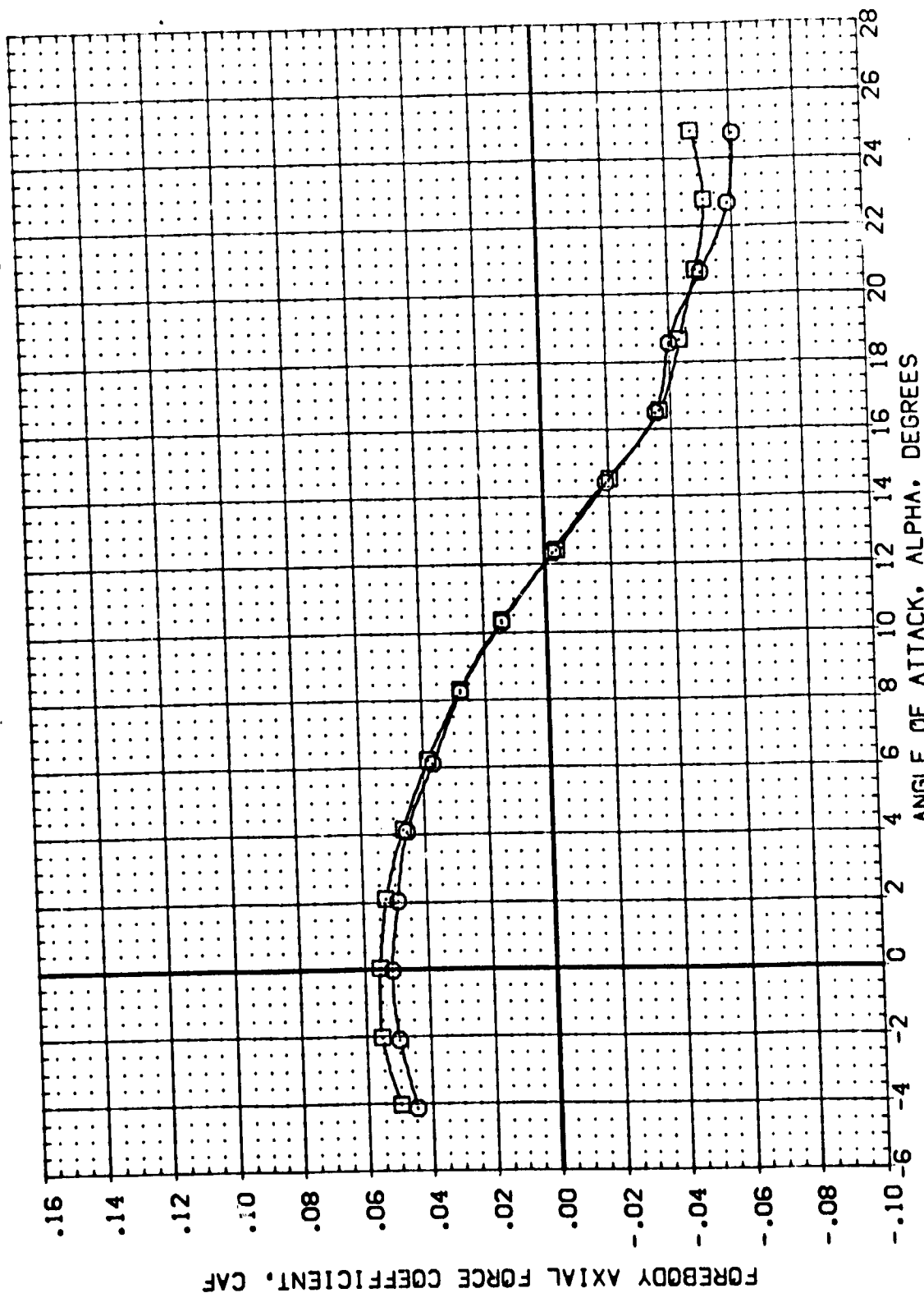


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
DA21	817C7H1344FS	.000	.000	-18.000	55.000	SREF 4.4119 50.000
DA22	817C7H1344FS	.000	.000	-18.000	55.000	LREF 19.2298 10.000
		10.000				BREF 37.9359 10.000
						YMRP 43.5574 10.000
						ZMRP 16.2000 10.000
						SCALE .0405 10.000

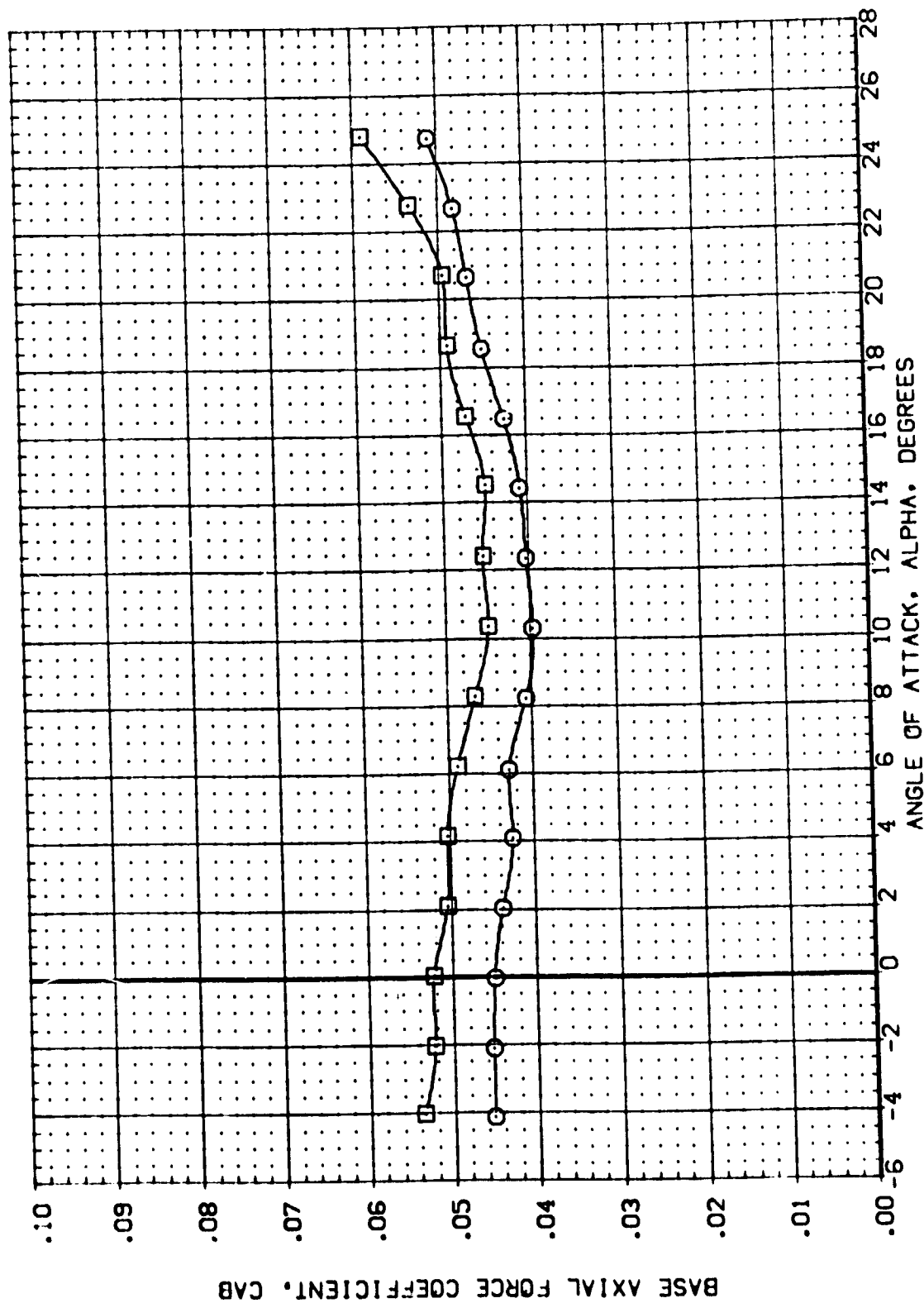


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16



DATA SET SYMBOL: 8  
 CONFIGURATION DESCRIPTION: 0A21 817C7H13M4FS V107E23V7R6X3  
 0A21 817C7H13M4FS V107E23V7R6X3

ELEVON: 10.000  
 AIRLON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000  
 REFERENCE INFORMATION:  
 SREF: 4.4119 SO.FT. INCHES  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

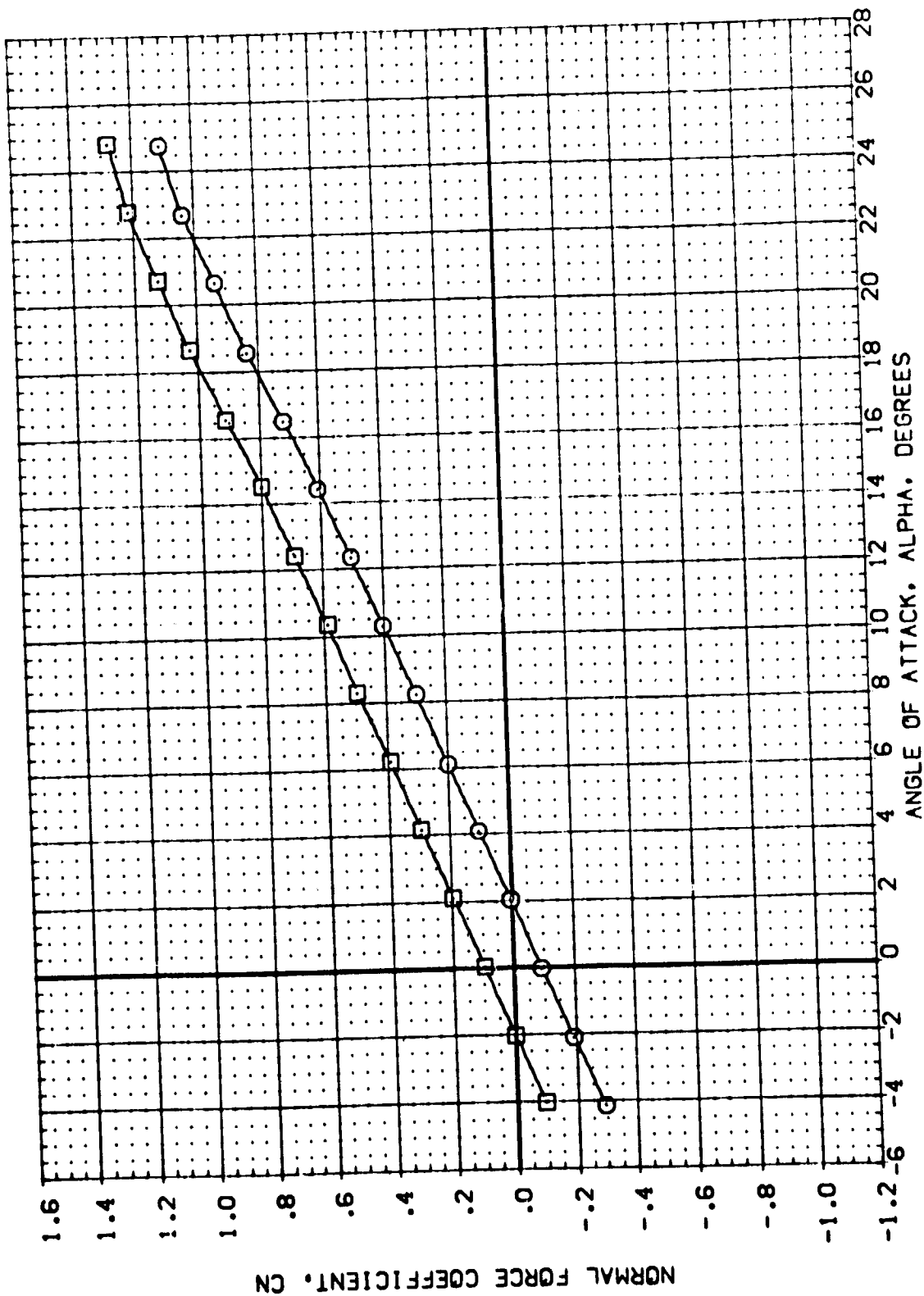


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL: □

CONFIGURATION DESCRIPTION:

Q1: B17C7H1344FS V107E23V7R6X8

Q2: B17C7H1344FS V107E23V7R6X8

ELEVON: .000

AILERON: .000

BOFLAP: -18.000

SPDBRK: 55.000

REFERENCE INFORMATION:

SREF: 4.4119 50. FT.

LREF: 19.2259 INCHES

BREF: 37.9359 INCHES

XMRP: 43.5974 INCHES

YMRP: .0000 INCHES

ZMRP: 16.2000 INCHES

SCALE: .0405

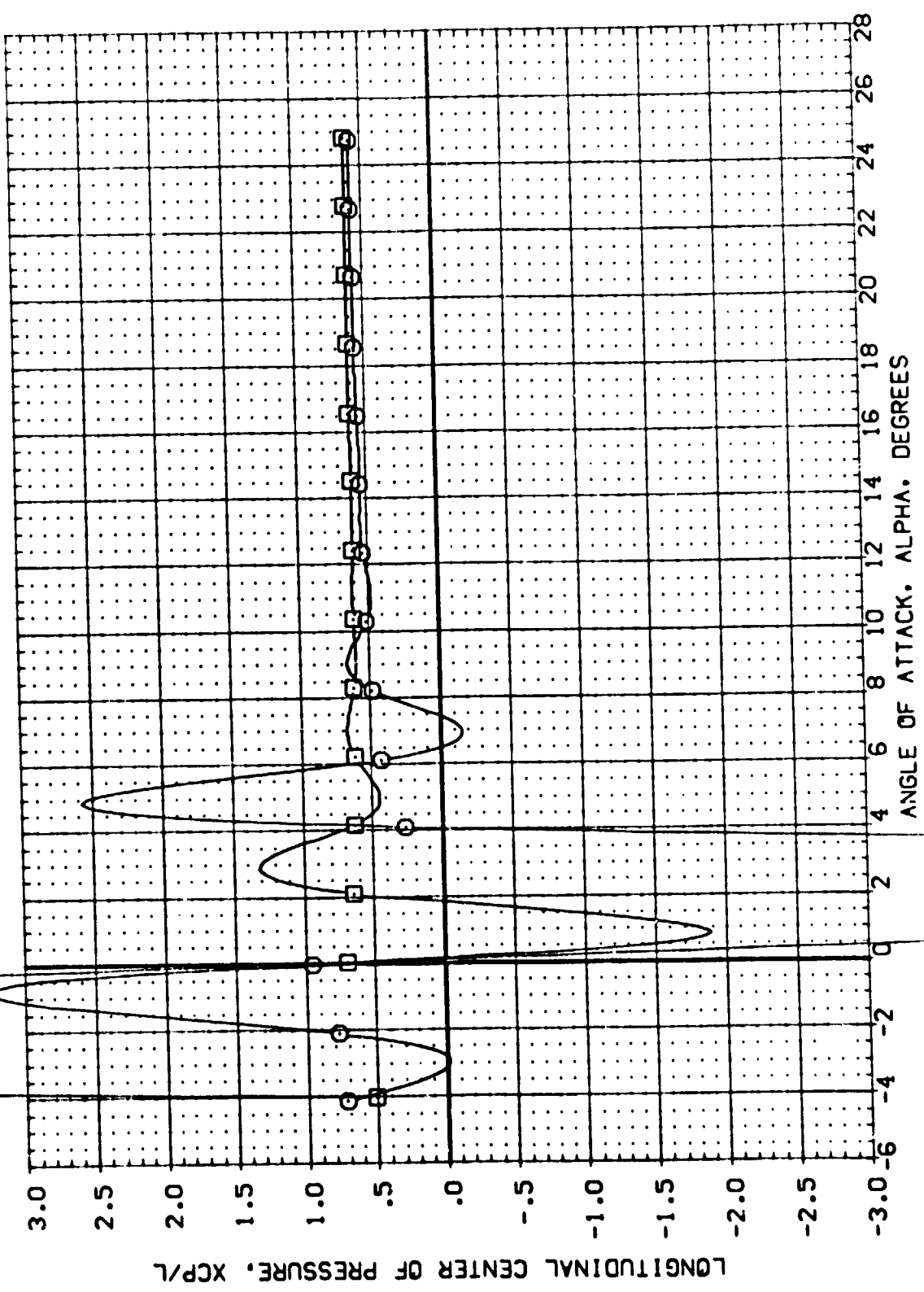


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21  
 CONFIGURATION DESCRIPTION: B17C7H13M4FS V107E23V7R6SKS  
 (IDP143) 0A21 B17C7H13M4FS V107E23V7R6SKS  
 (IDP154) 0A21 B17C7H13M4FS V107E23V7R6SKS

ELEVON: 10.000  
 AILRON: .000  
 BDFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XPRP: 43.5974 INCHES  
 YPRP: .0000 INCHES  
 ZPRP: 16.2000 INCHES  
 SCALE: .0405

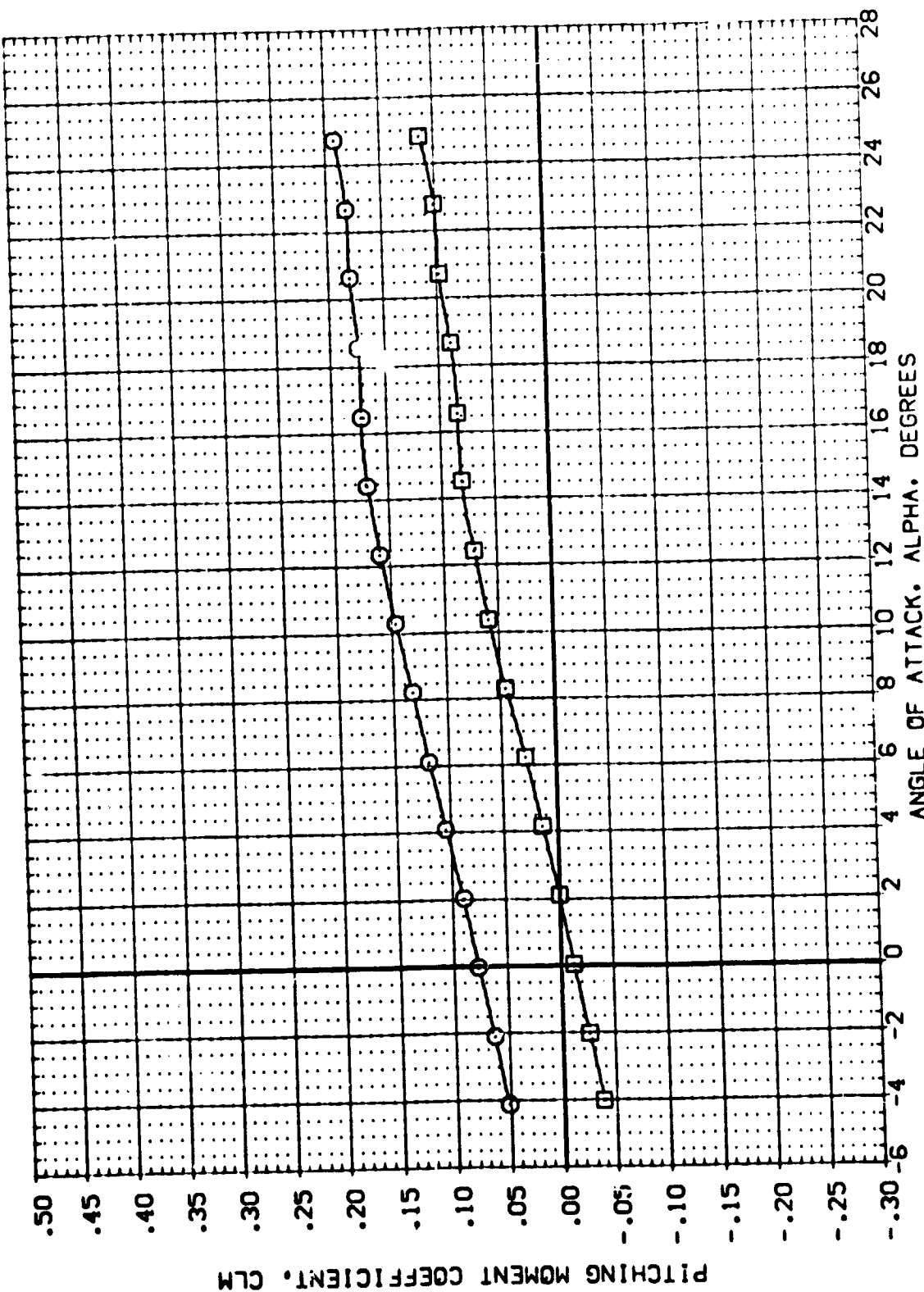


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL: 000154  
 CONFIGURATION DESCRIPTION: 817C7H1344FS V107E23V76D13

MAXELE: 10.000  
 DELELE: 10.000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SO. FT.  
 LREF: 19.2298 INCHES  
 BREF: 37.9359 INCHES  
 XREF: 43.5174 INCHES  
 YREF: .0000 INCHES  
 ZREF: 16.2000 INCHES  
 SCALE: .04CS

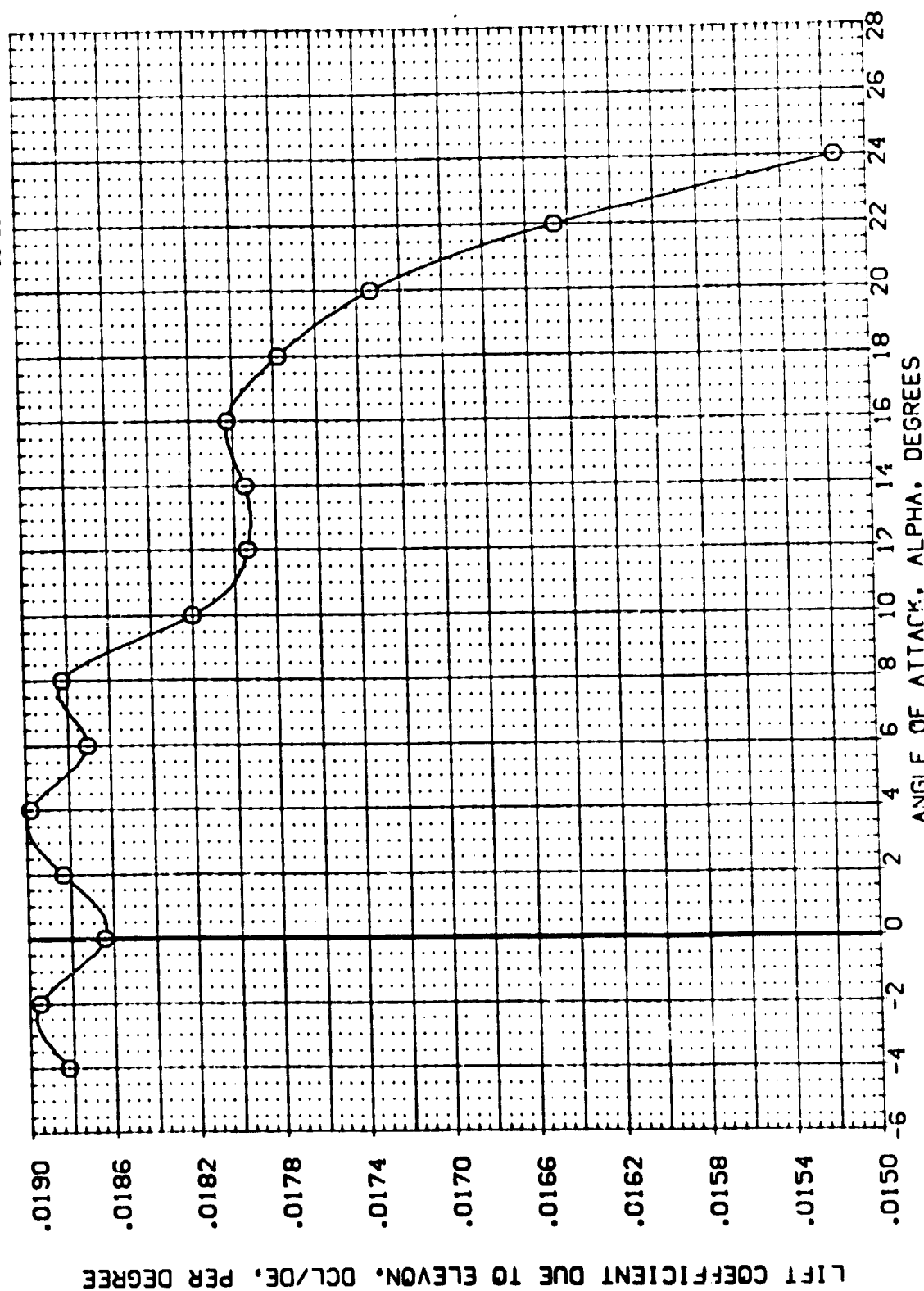


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SET SYMBOL (00P154)  $\bigcirc$  QAZ1 817C7H1344FS V107E23V7R6X9

CONFIGURATION DESCRIPTION  
 MAXELE 10.000  
 DELELE 10.000  
 BOFLAP -18.000  
 SPOBRK 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.3359 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405 SCALE

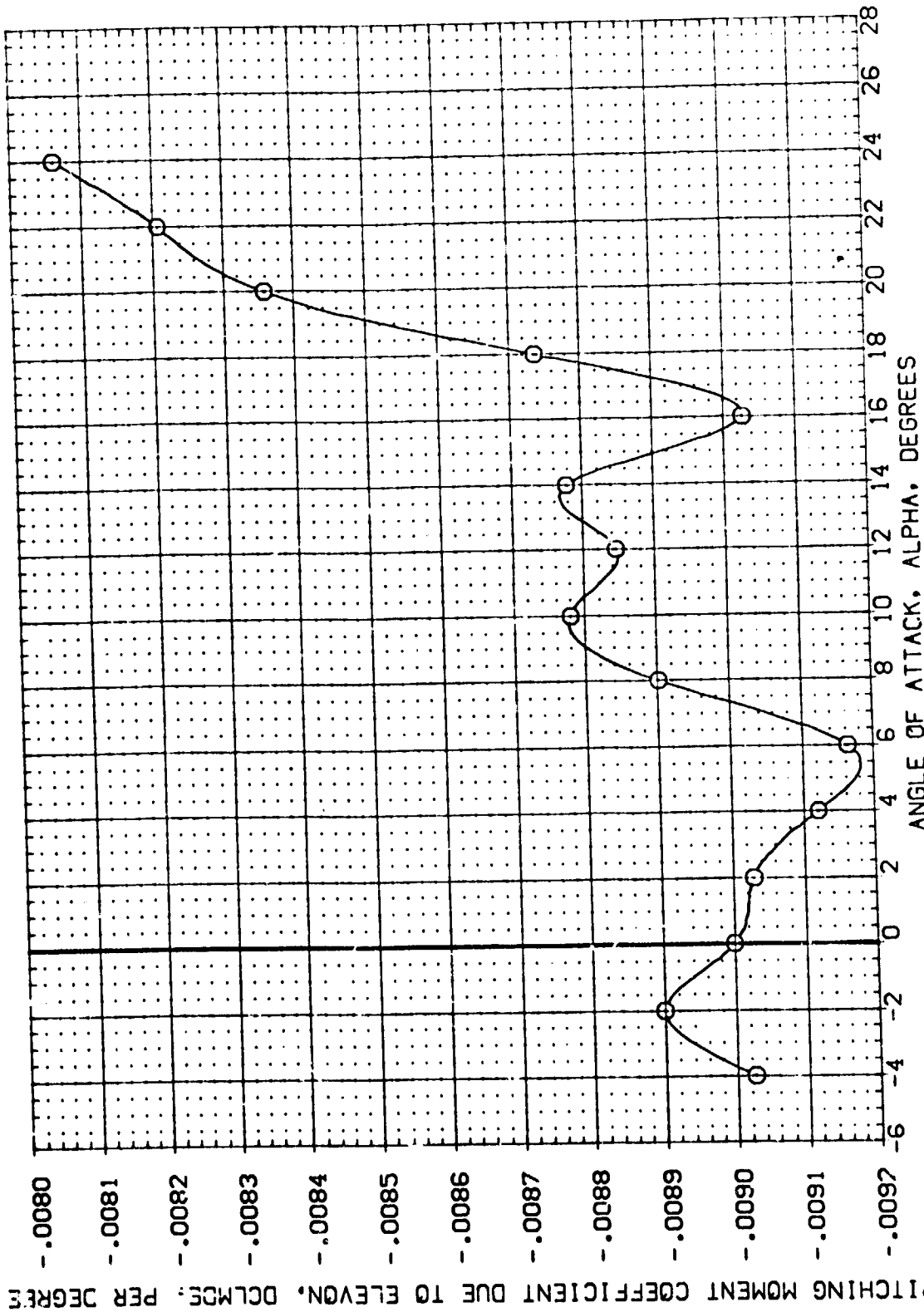


FIGURE 27 ELEVON EFFECTIVENESS WITH H13 CANARD

(A)MACH = .16

DATA SE. SYMBOL CONFIGURATION DESCRIPTION X9  
 (DP166) [ ] 0A21 B17C7H14M4FS V107E23V7R6 X9  
 (DP168) [ ] 0A21 B17C7H14M4FS V107E23V7R6 X9

ELEVON AILRON BDFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2268 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

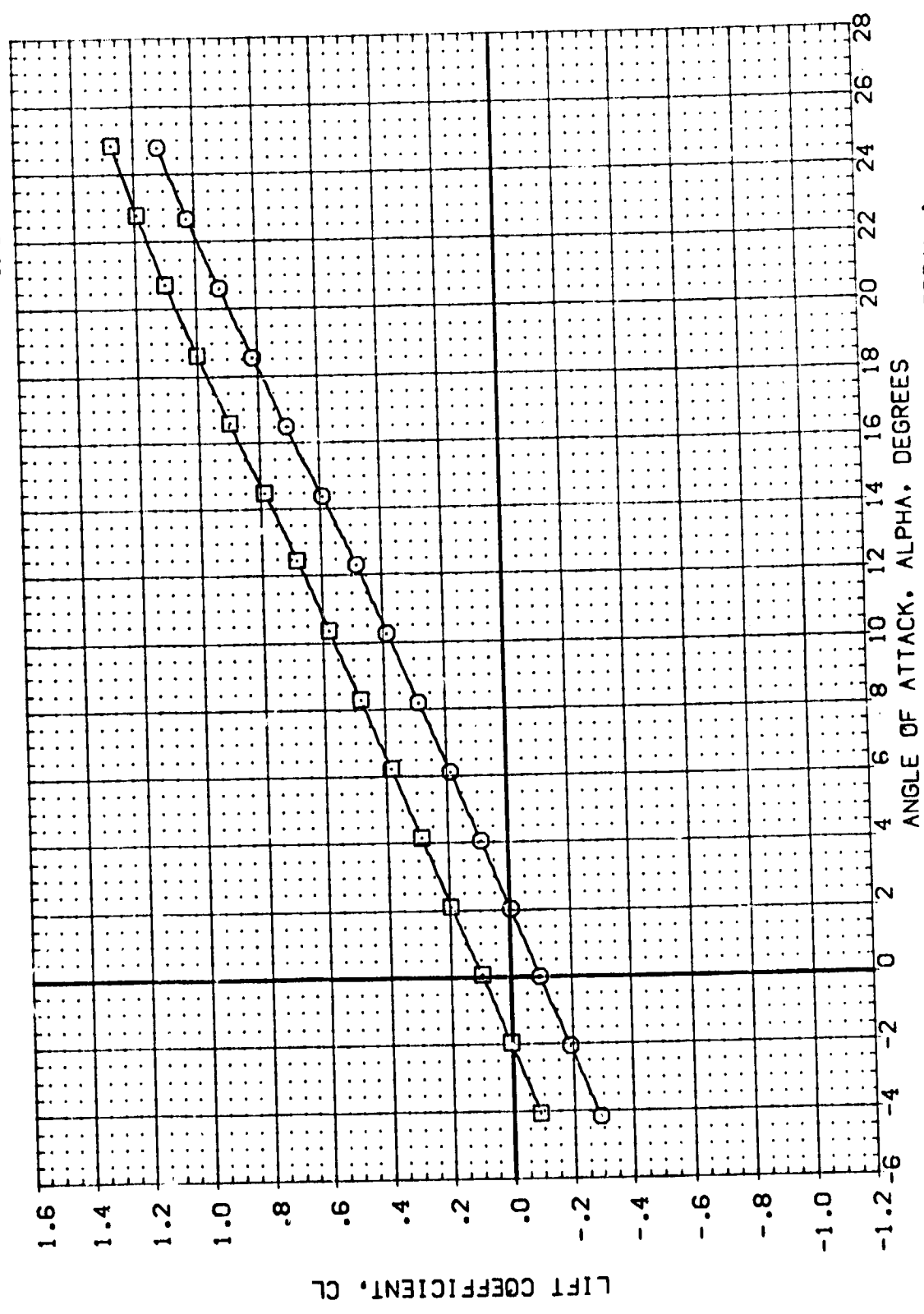


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION    X9  
 (IDP166)    0A21    B17C7H14M4F5    V107E23V7R6    X9  
 (IDP168)    0A21    B17C7H14M4F5    V107E23V7R6    X9

ELEVON    ALLRON    BOFLAP    SPDBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

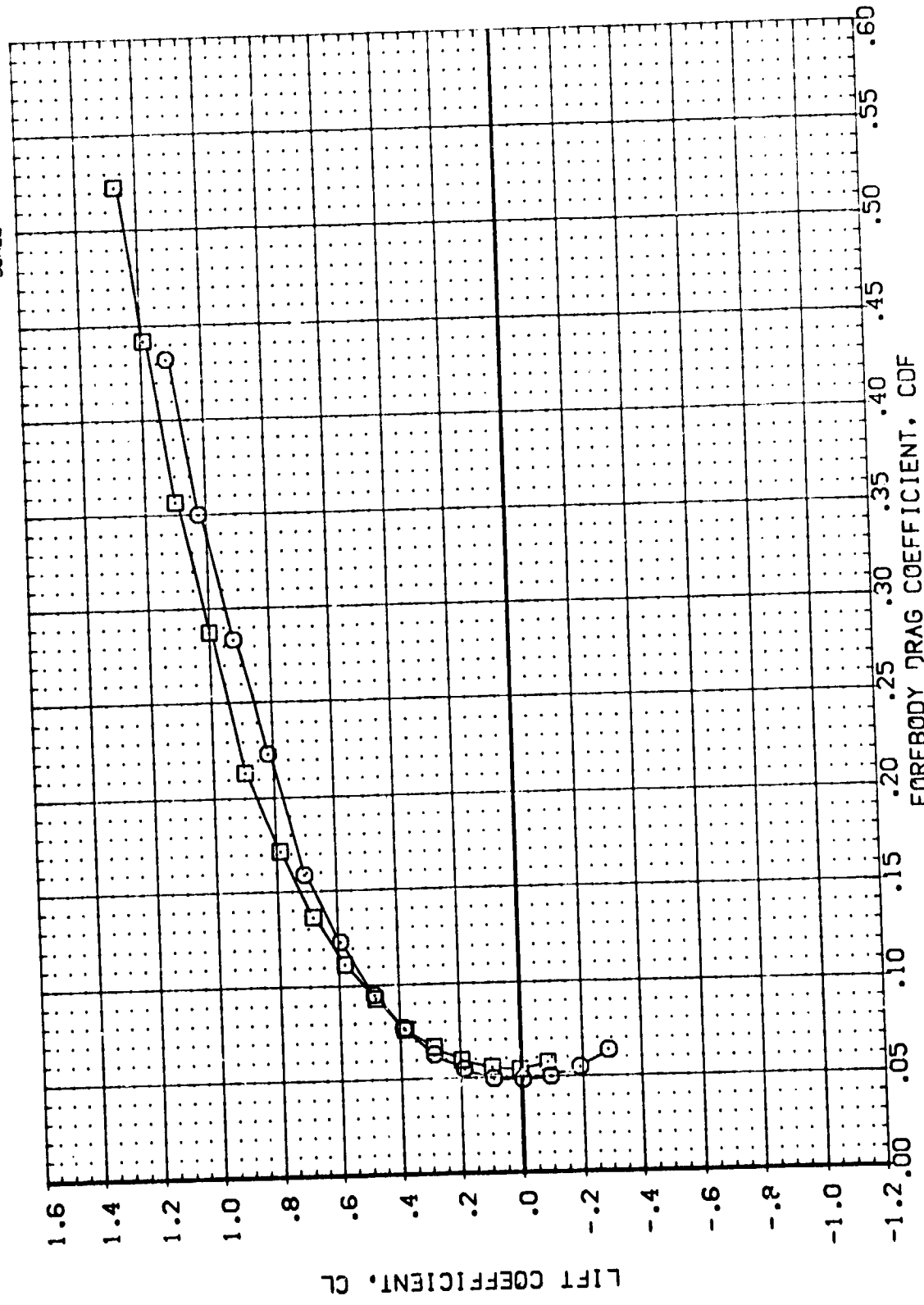


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(DP166)	QAZ1 B17C7H14M4F5 V107E23V7R6 X9	.000	.000	-18.000	55.000	SREF 4.4119 SO.FT. INCHES
(DP168)	QAZ1 B17C7H14M4F5 V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						XMRP 43.5374 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 INCHES

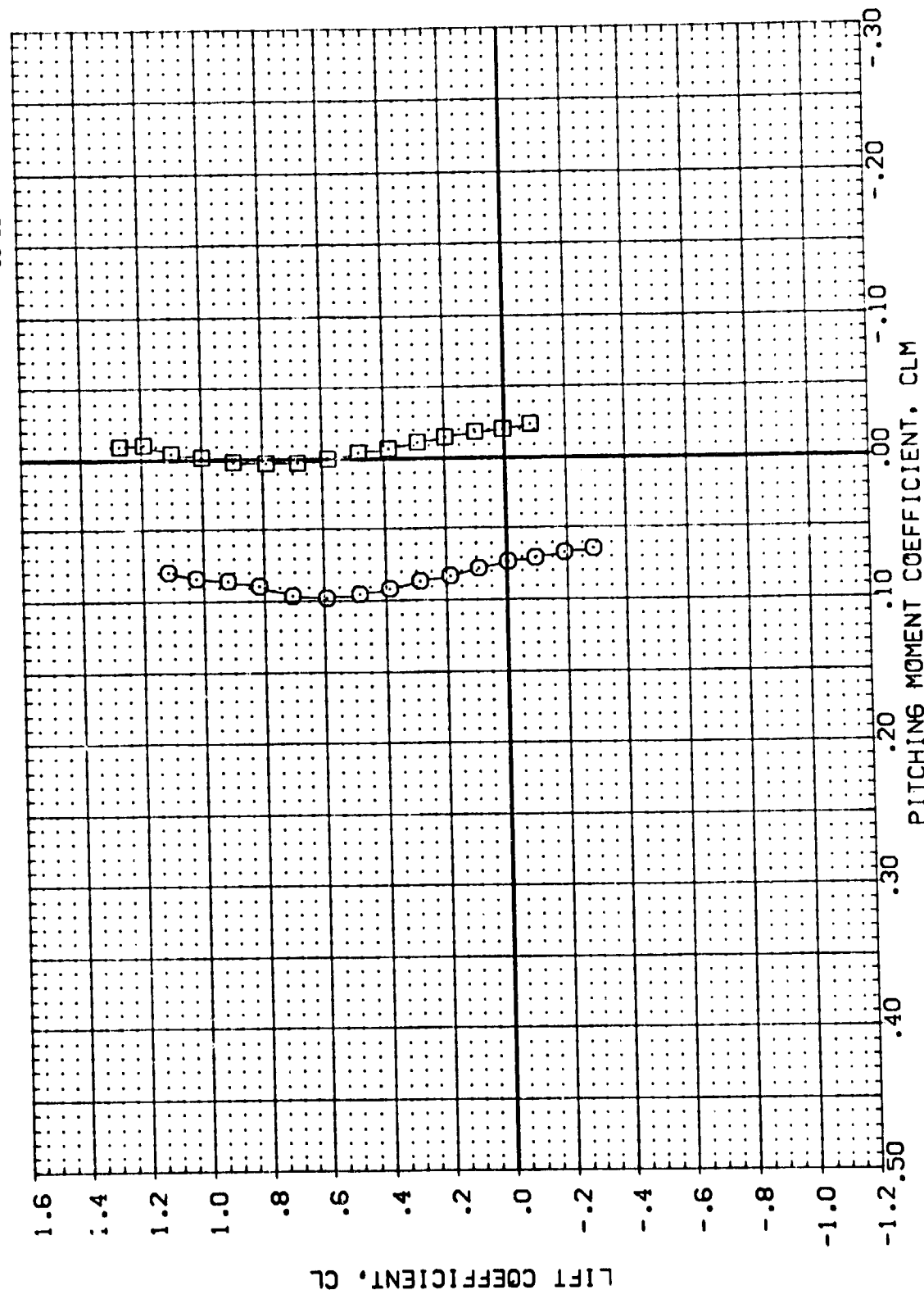


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP[66])	0A21	817C7H14M4FS	V107E23V7R6	SREF	4.4119
(IDP[68])	0A21	817C7H14M4FS	V107E23V7R6	LREF	19.2299
				BREF	37.9359
				XMRP	43.5974
				YMRP	16.0000
				ZMRP	16.2000
				SCALE	.0405

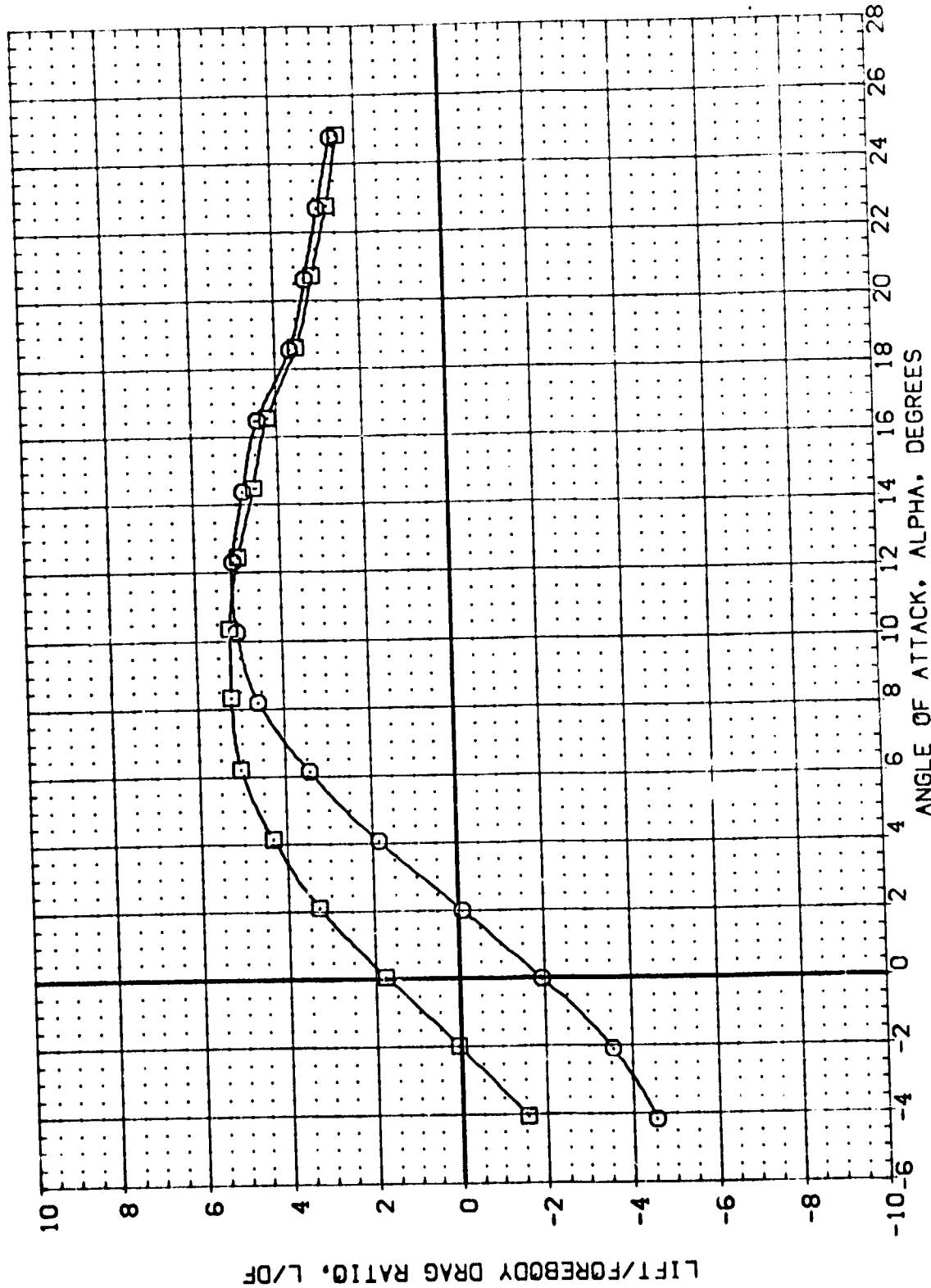


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP165)	DA21	B17C7H14M4F5	V107E23V7R6	SREF	4.4119
(IDP168)	DA21	B17C7H14M4F5	V107E23V7R6	LREF	19.2239
				BREF	37.9359
				XMRRP	43.5974
				YMRRP	.0000
				ZMRRP	16.2000
				SCALE	.0405

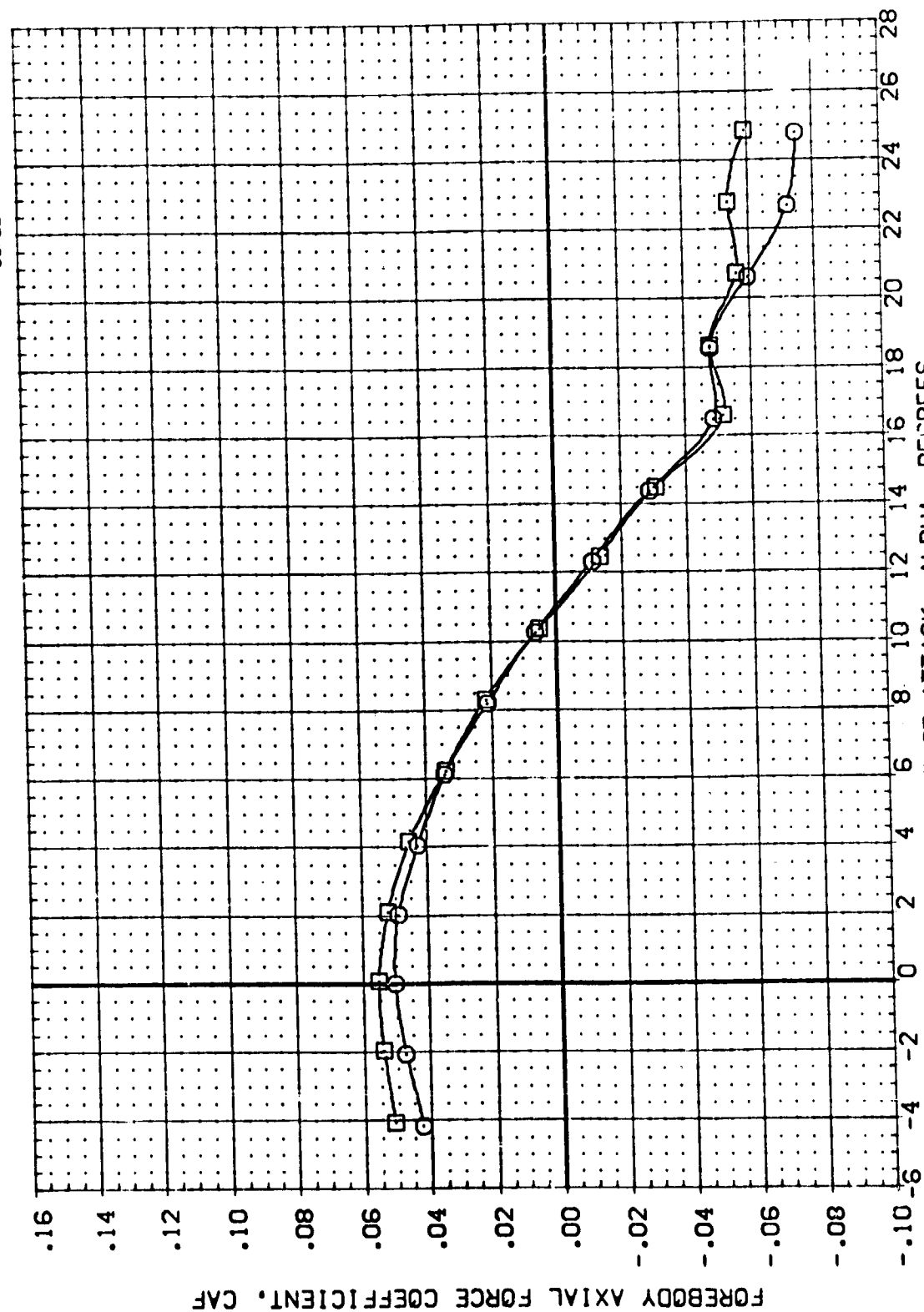


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	X9
(DP165)	DA21	B17C7H14M4F5	V107E23V7R6
(DP168)	DA21	B17C7F14M4F5	V107E23V7R6

ELEVON	AIRLON	BDFLAP	SPOBRK		REFERENCE INFORMATION	SO.FT.
.000	.000	-18.000	55.000	SREF	4.4119	INCHES
10.000	.000	-18.000	55.000	LREF	19.2259	INCHES
				BREF	37.9359	INCHES
				XMRP	43.5974	INCHES
				YMRP	.0000	INCHES
				ZMRP	16.2000	INCHES
				SCALE	.0405	SCALE

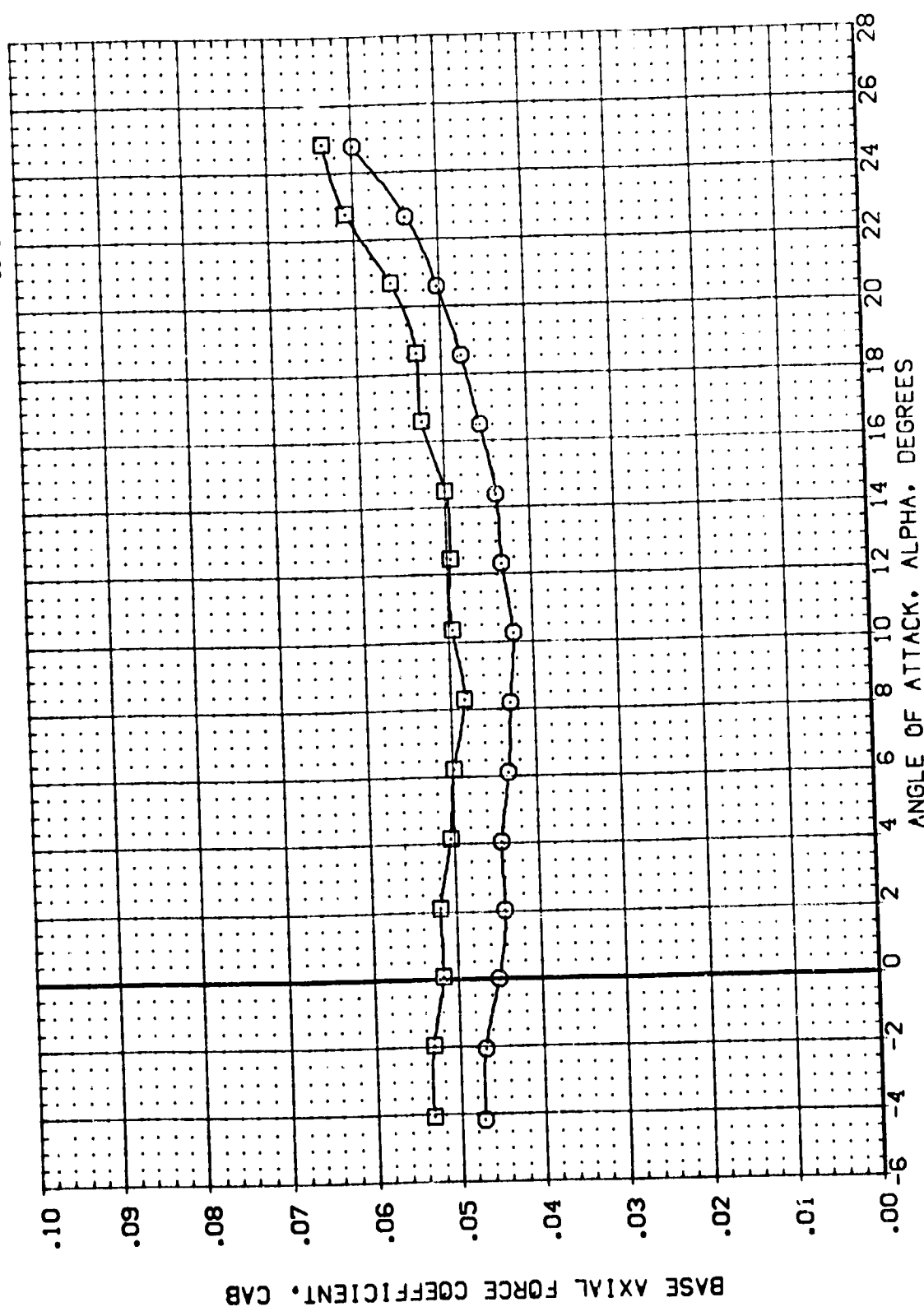


FIGURE 28 FLEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

$$[A]_{\text{MACH}} = .16$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION	
(DP166)	0A21 B17C7H14MAFS V107E23V7R6 X9	.000	.000	-18.000	55.000	SREF	4.4119 SQ.FT.
(DP168)	0A21 B17C7H14MAFS V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF	19.2299 INCHES
						BREF	37.9359 INCHES
						XMRP	43.5974 INCHES
						YMRP	.0000 INCHES
						ZMRP	16.2000 INCHES
						SCALE	.0405

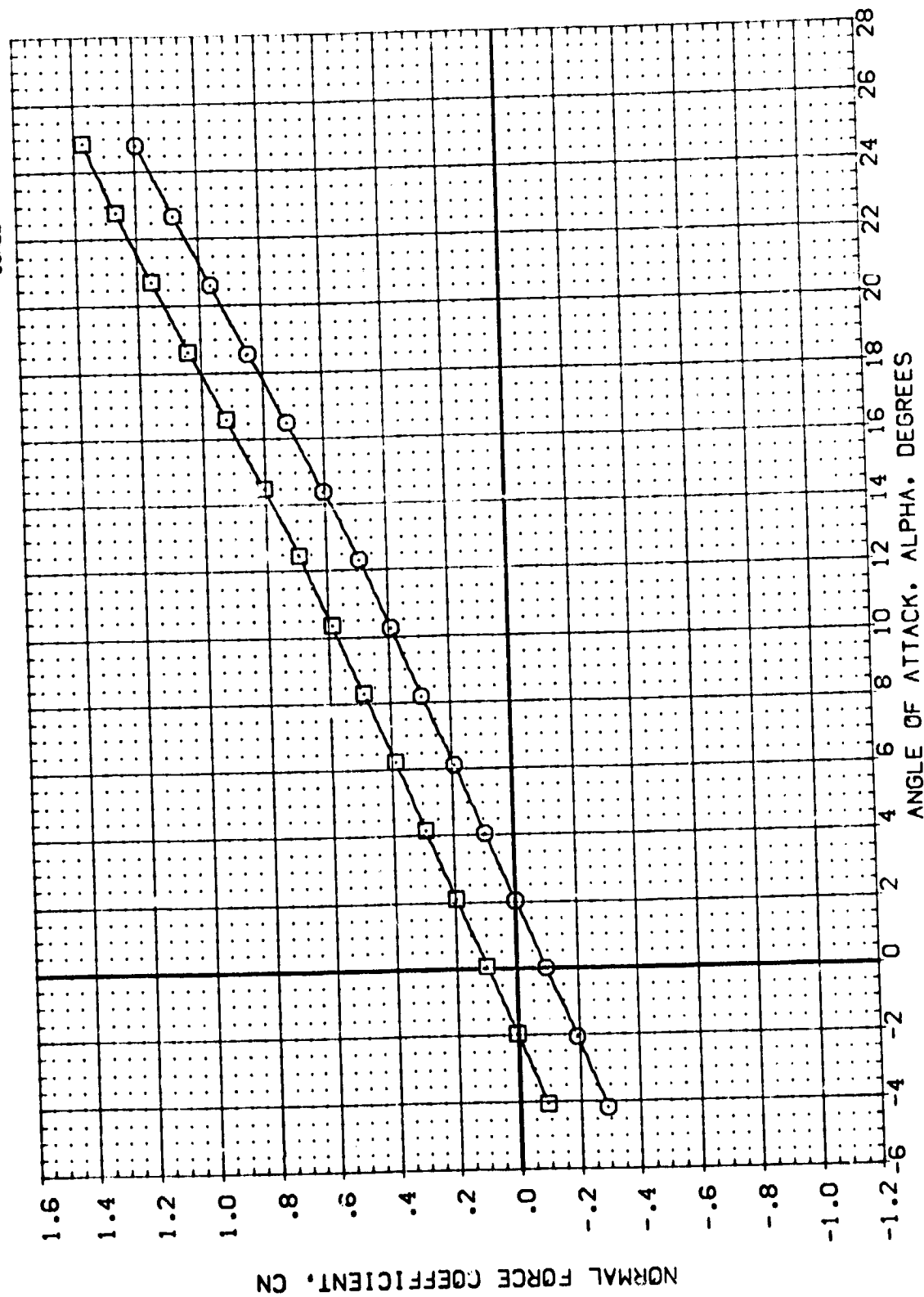


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

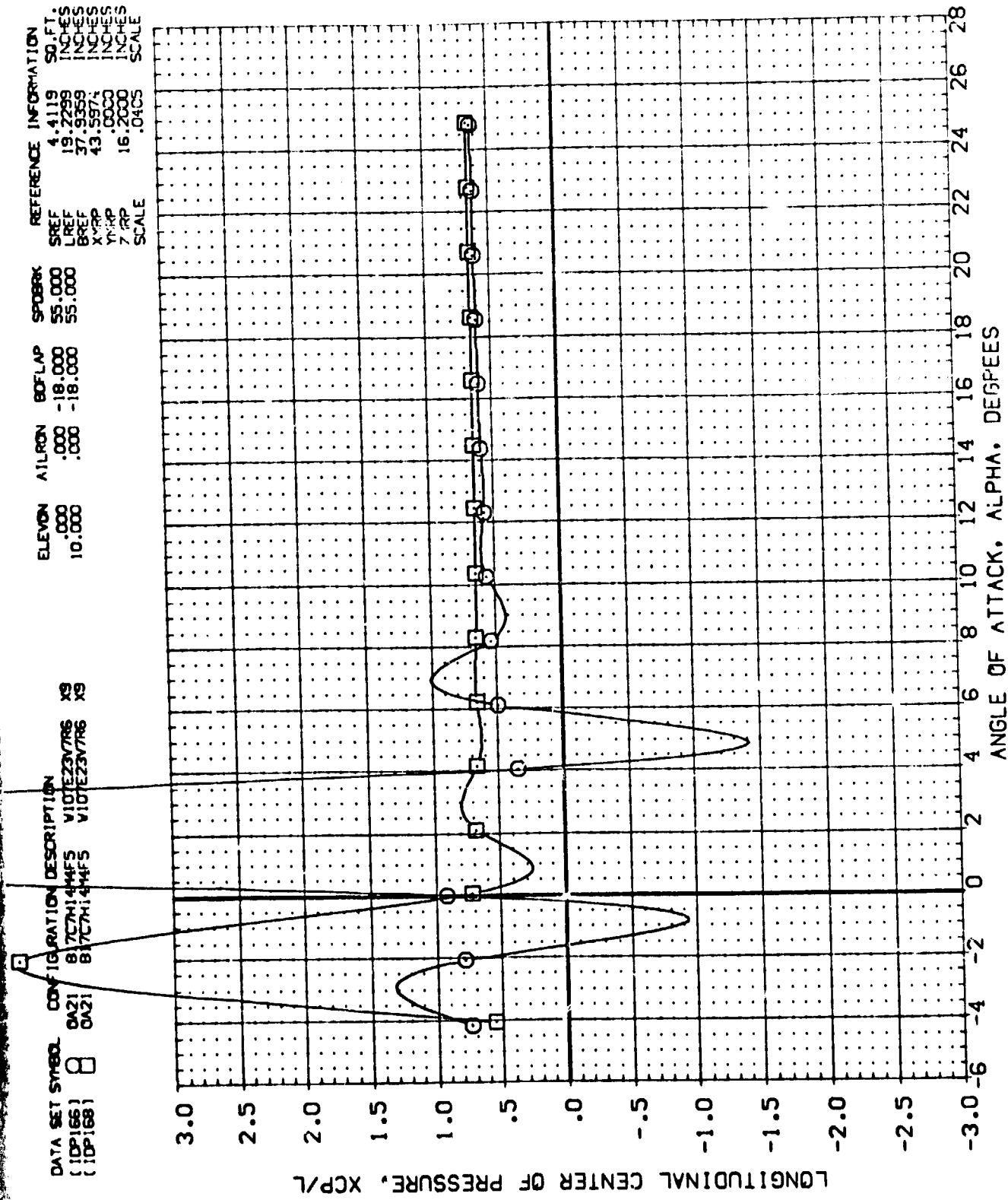


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(M)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AIRLON		BOFLAP		SPDRK		REFERENCE INFORMATION	
(10P166)	CA21	B17C7H14M4F5	V107E23V7R6	X9	.000	.000	.000	-18.000	55.000	SREF	4.4119	50.FT.	
(10P168)	CA21	B17C7H14M4F5	V107E23V7R6	X9	10.000	.000	.000	-18.000	55.000	LREF	19.2299	INCHES	
										BREF	37.9359	INCHES	
										XMRP	43.5974	INCHES	
										YMRP	.0000	INCHES	
										ZMRP	16.2000	INCHES	
										SCALE	.0405	SCALE	

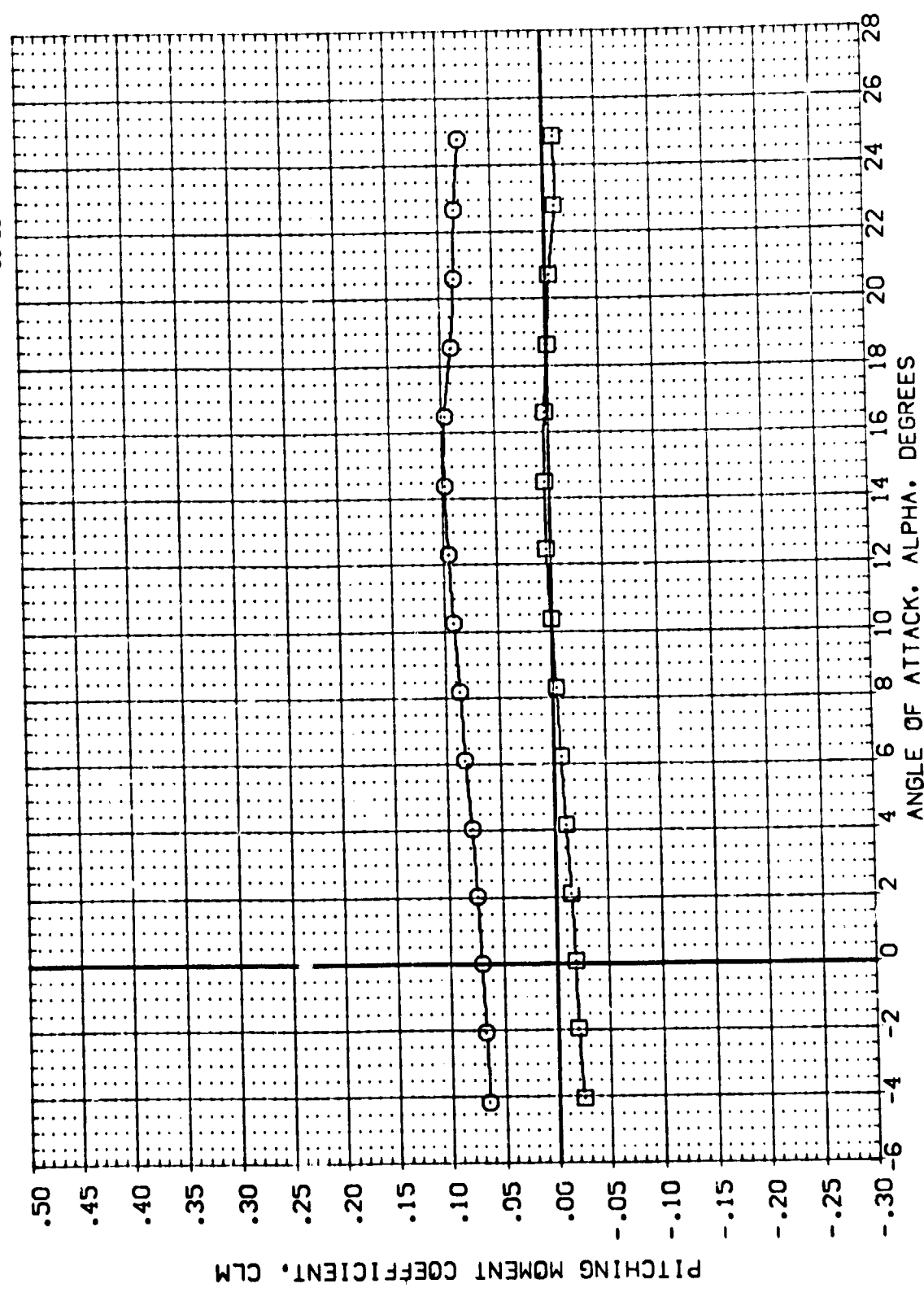


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A) MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (00P168)    O    0A21    817CM14MFS    V107EZ3V7R6    X9

MAXELE    DELELE    SOFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2298    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

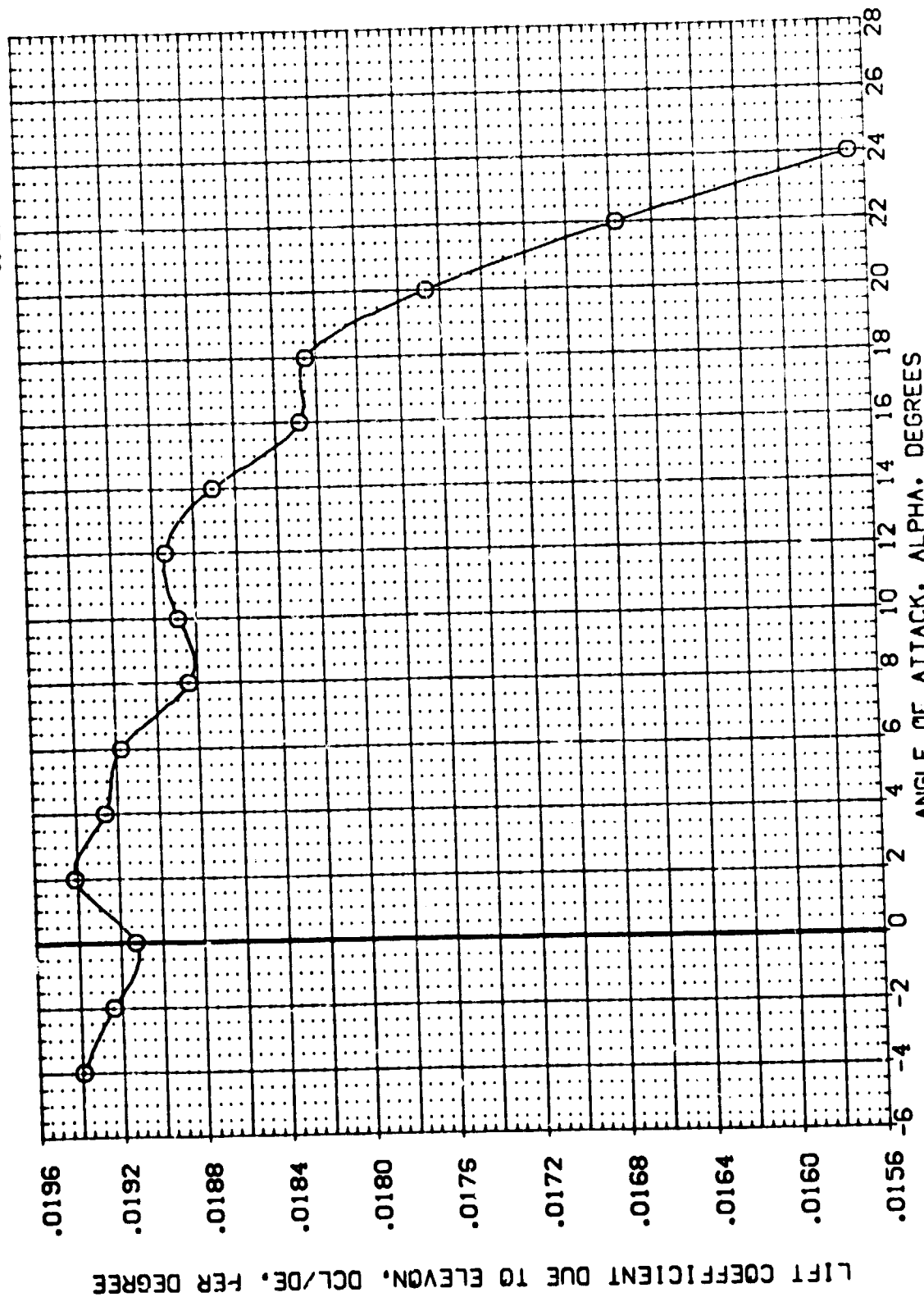


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION    X3  
 (COP188)    ○    0A21    B17C7M14MAFS    V107E23V7R6

MAXELE    DELELE    BDFLAP    SPOBRK  
 10.000    10.000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2289    INCHES  
 BREF    37.9359    INCHES  
 XPRP    43.5974    INCHES  
 YPRP    .0000    INCHES  
 ZPRP    16.2000    INCHES  
 SCALE    .0405    SCALE

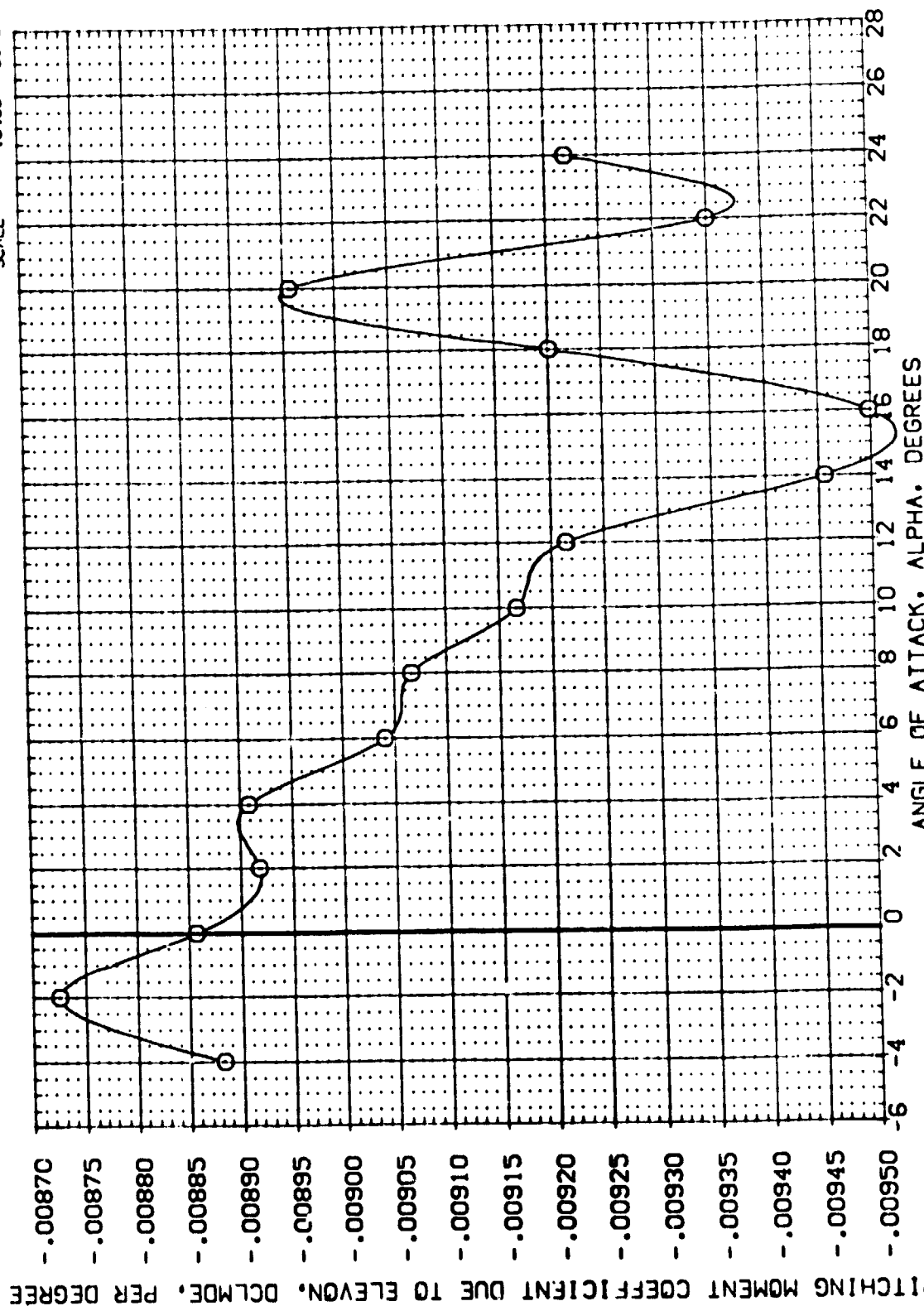


FIGURE 28 ELEVON EFFECTIVENESS WITH H14 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILRON		BOFLAP		SPDRBK		REFERENCE INFORMATION	
[DP163]	[DP170]	0A21	817CM15M4FS	V107E23V7MS	X3	.000	.000	-18.000	55.000	SREF	4.4119	50. FT.	
		0A31	817CM15M4FS	V107E23V7MS	X3	10.000	.000	-18.000	55.000	LREF	19.2259	INCHES	
										BREF	37.9259	INCHES	
										XMRP	43.5874	INCHES	
										YMRP	.0000	INCHES	
										ZMRP	16.2000	INCHES	
										SCALE	.0405	SCALE	

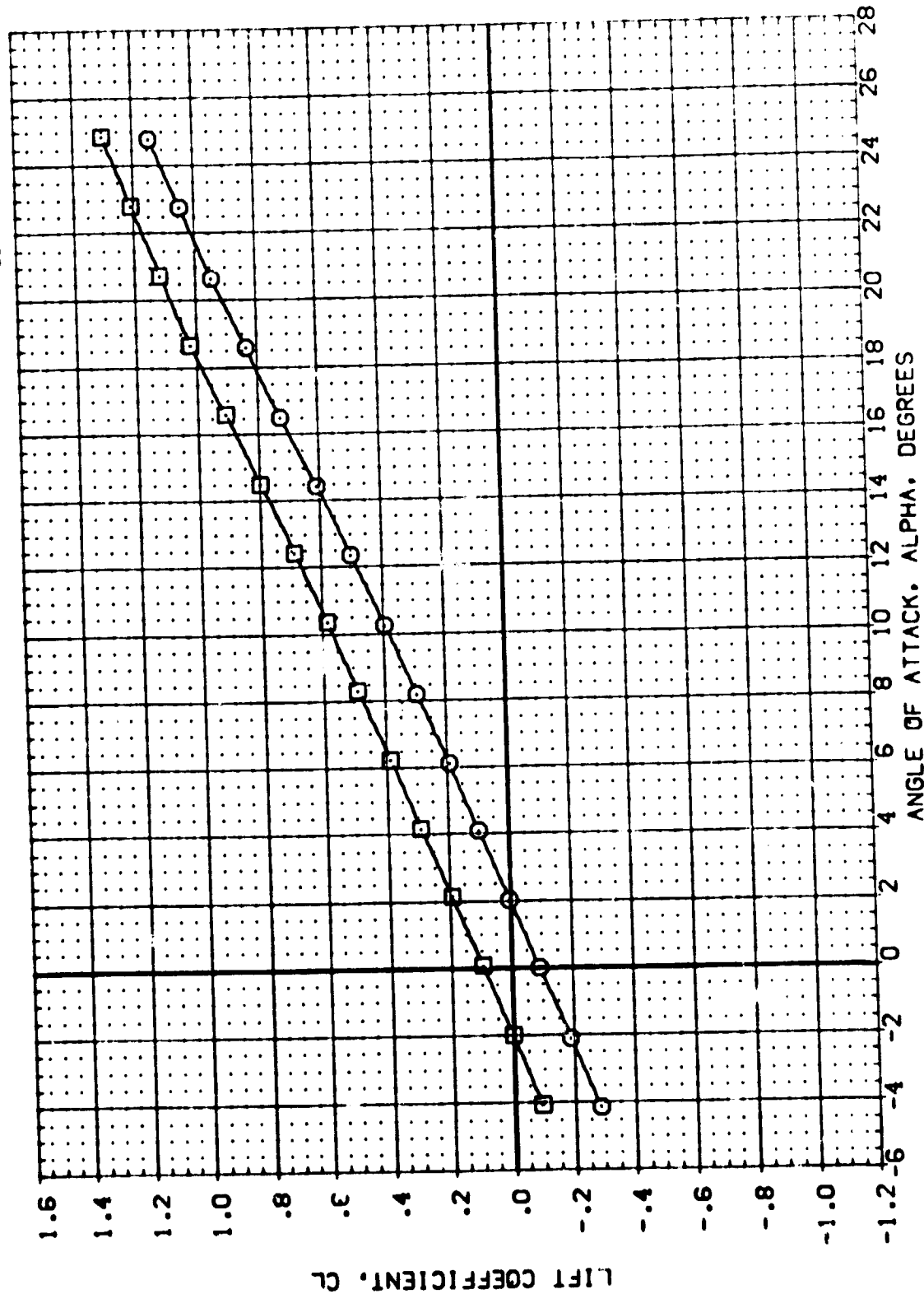


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMB.	CONFIGURATION DESCRIPTION	ELEVON	ATLRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(DP163)	QAZ1 B17C7H1544FS V107E23V7R6 X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP170)	QAZ2 B17C7H1544FS V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

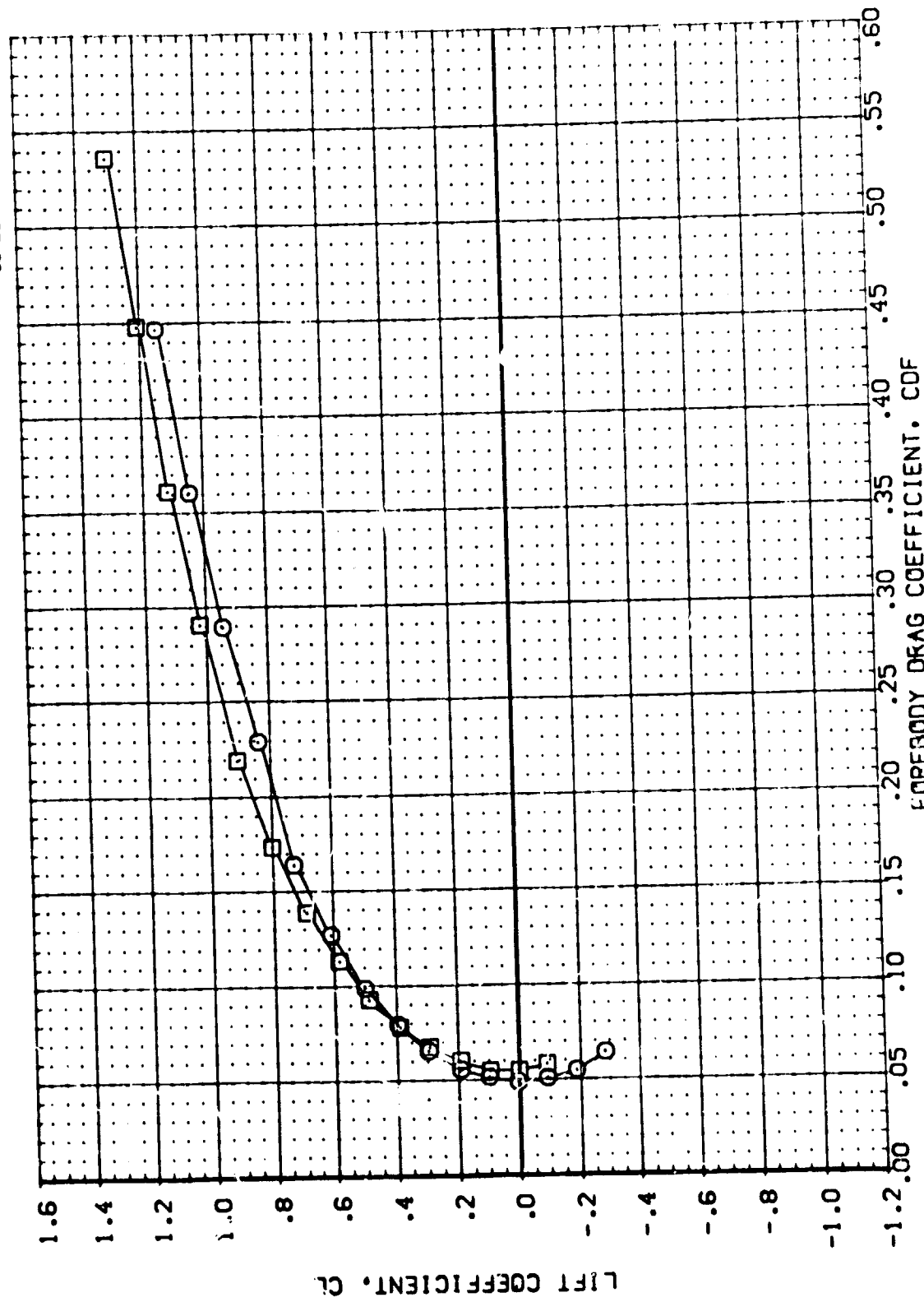


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL: ☐ (IDP163) ☐ (IDP170)

CONFIGURATION DESCRIPTION:  
 0A21: 817C7H15H4F5 V107E23V7R6 X9  
 0A21: 817C7H15H4F5 V107E23V7R6 X9

ELEVON: 10.000  
 ALLORN: .000  
 BOFLAP: -18.000  
 SPORBN: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 90.FT.  
 LREF: 19.2289 INCHES  
 BREF: 37.9359 INCHES  
 XREF: 43.5974 INCHES  
 YREF: .0000 INCHES  
 ZREF: 16.2000 INCHES  
 SCALE: .0409

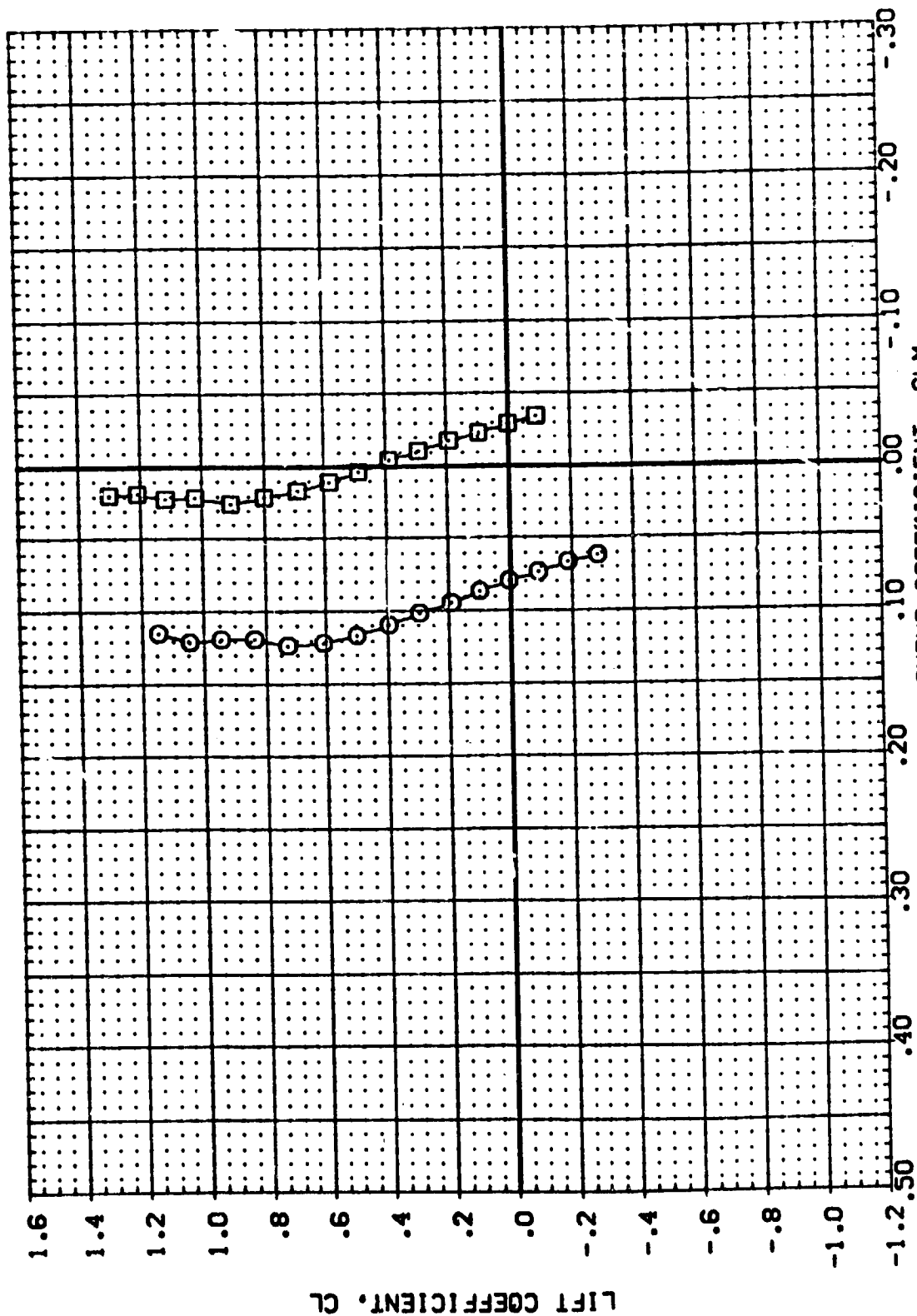


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AIRLON		EDFLAP		SPDRBK		REFERENCE INFORMATION	
(IDP163)	□	0A21	817C7H15M4F5	V107E23V7R6	X3	.000	.000	-18.000	55.000	SREF	4.4119	50. FT.	
(IDP170)	□	0A21	817C7H15M4F5	V107E23V7R6	X3	10.000	.000	-18.000	55.000	LREF	19.2299	INCHES	
										BREF	37.9359	INCHES	
										XTREF	43.5974	INCHES	
										YTRP	.0000	INCHES	
										ZTRP	16.2000	INCHES	
										SCALE	.0405	SCALE	

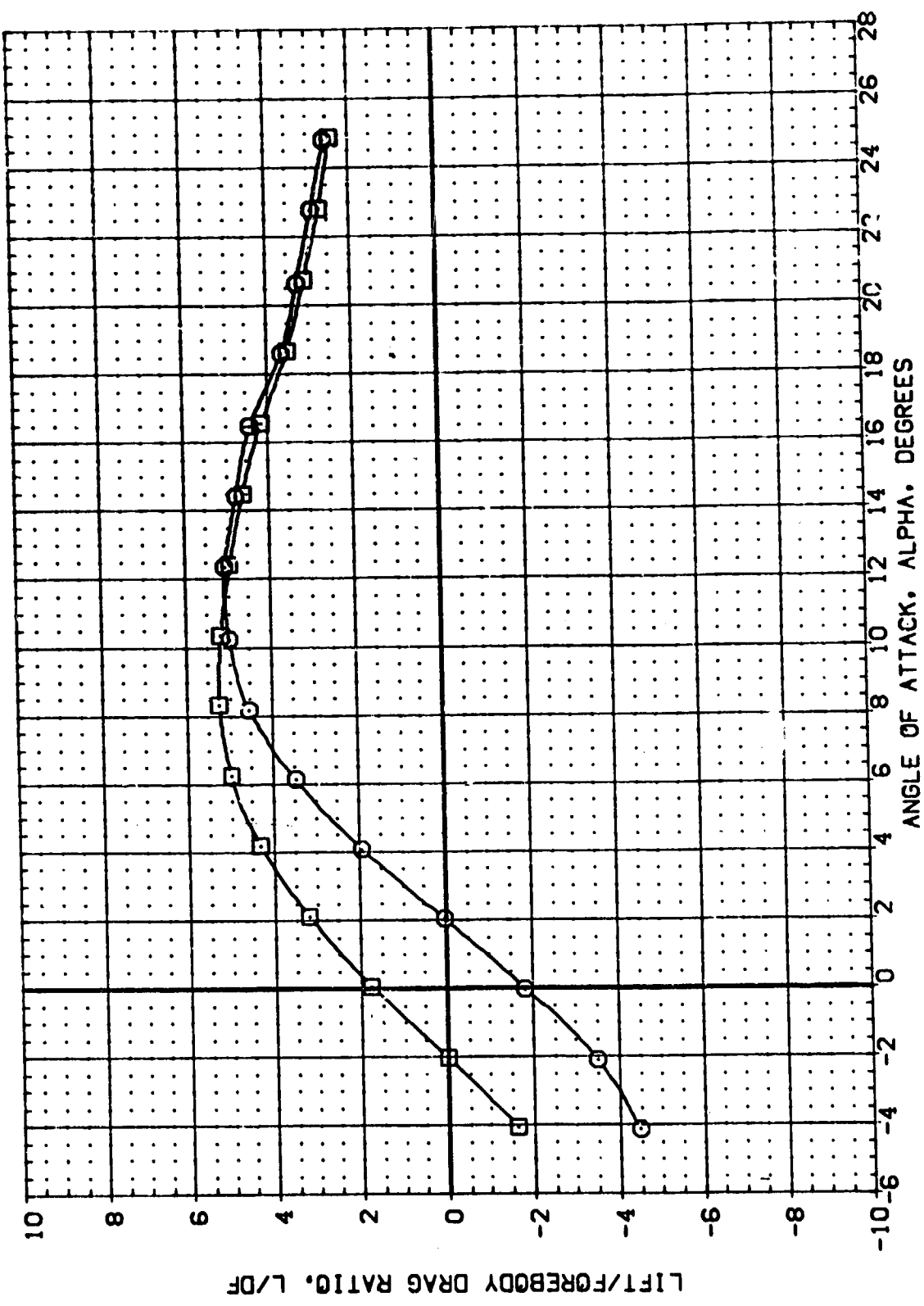


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBL. CONFIGURATION DESCRIPTION

(IDP163) □ 0A21 817C7H15H4FS V107E23V7H6 X9

(IDP170) □ 0A21 817C7H15H4FS V107E23V7H6 X9

ELEVON AILRON BOFLAP SPOBWK

10.000 .000 .000 55.000

.000 .000 .000 55.000

REFERENCE INFORMATION

SREF 4.4119 50.000

LREF 19.2299 100.000

BREF 37.5359 100.000

XTRP 43.5974 100.000

YTRP 16.0000 100.000

ZTRP 16.0000 100.000

SCALE .0405

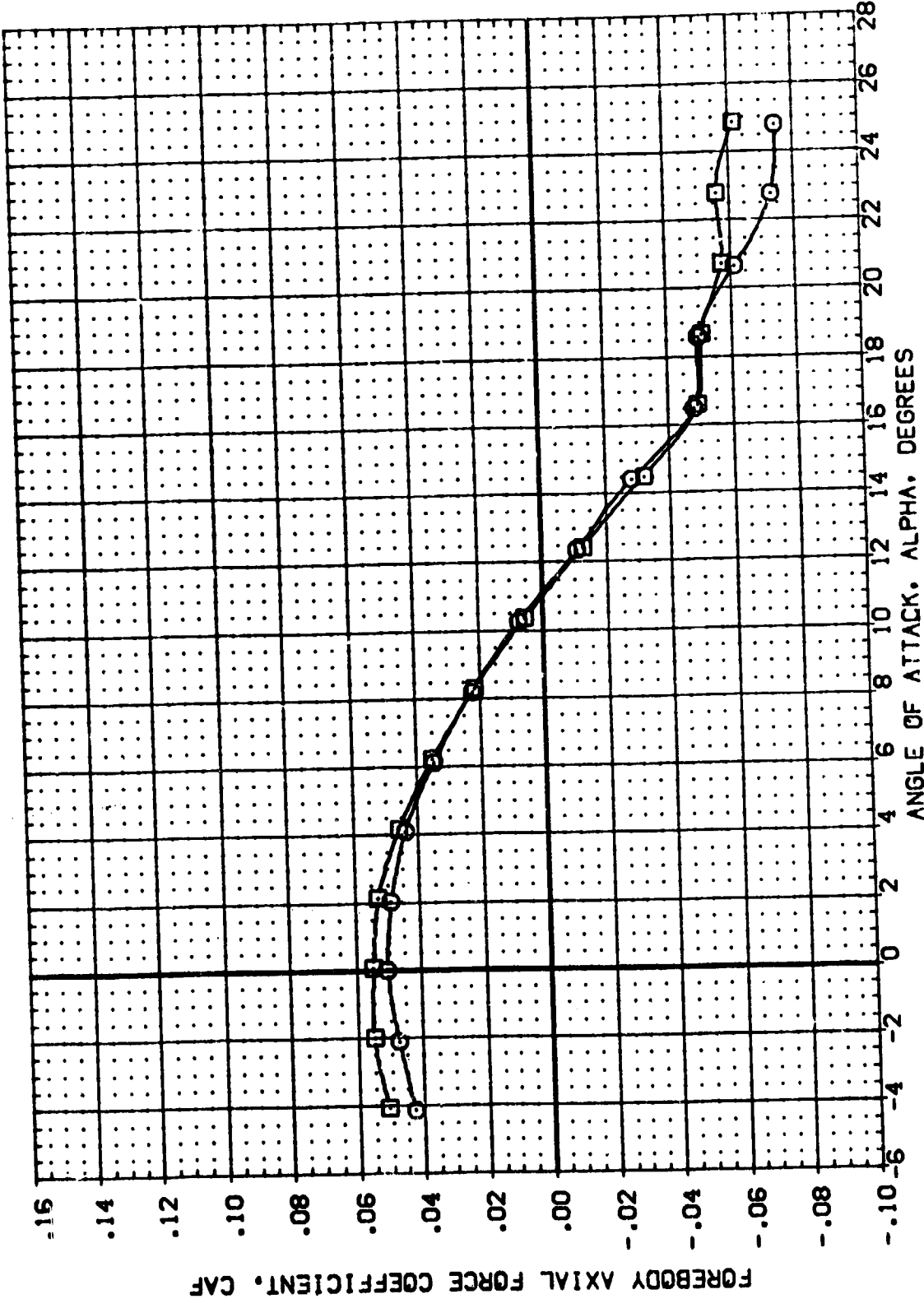


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
{ 10P163 }	0A21	B17C7H1544FS	V107E23V7R6	SREF	4.4119 SQ.FT.
{ 10P170 }	0A21	B17C7H1544FS	V107E23V7R6	LREF	19.2289 INCHES
				BREF	37.9359 INCHES
				XMRP	43.5574 INCHES
				YMRP	.0000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405 INCHES

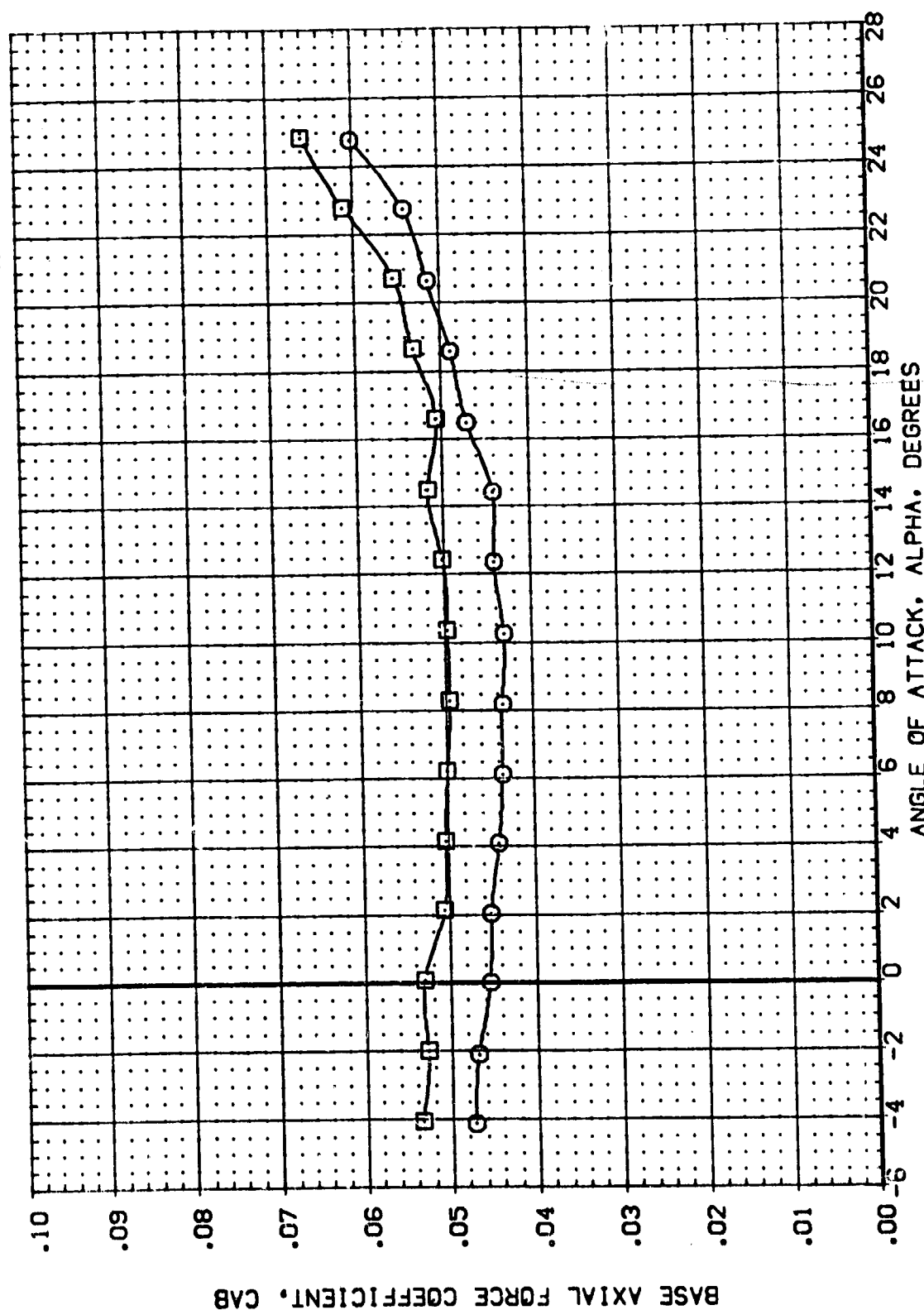


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (10P163)    0A21    817C7H15HAF5    V107E23V7M6    X8  
 (10P170)    0A21    817C7H15HAF5    V107E23V7M6    X8

ELEVON    AILRON    BOFLAP    SPDRK    REFERENCE INFORMATION  
 10.000    .000    -18.000    55.000    SREF    4.4119    50.FT.  
 .000    .000    -18.000    55.000    LREF    19.2289    INCHES  
 .000    .000    -18.000    55.000    BREF    37.5359    INCHES  
 .000    .000    -18.000    55.000    XPRP    43.9574    INCHES  
 .000    .000    -18.000    55.000    YPRP    .0000    INCHES  
 .000    .000    -18.000    55.000    ZPRP    16.2000    INCHES  
 .000    .000    -18.000    55.000    SCALE    .0405    SCALE

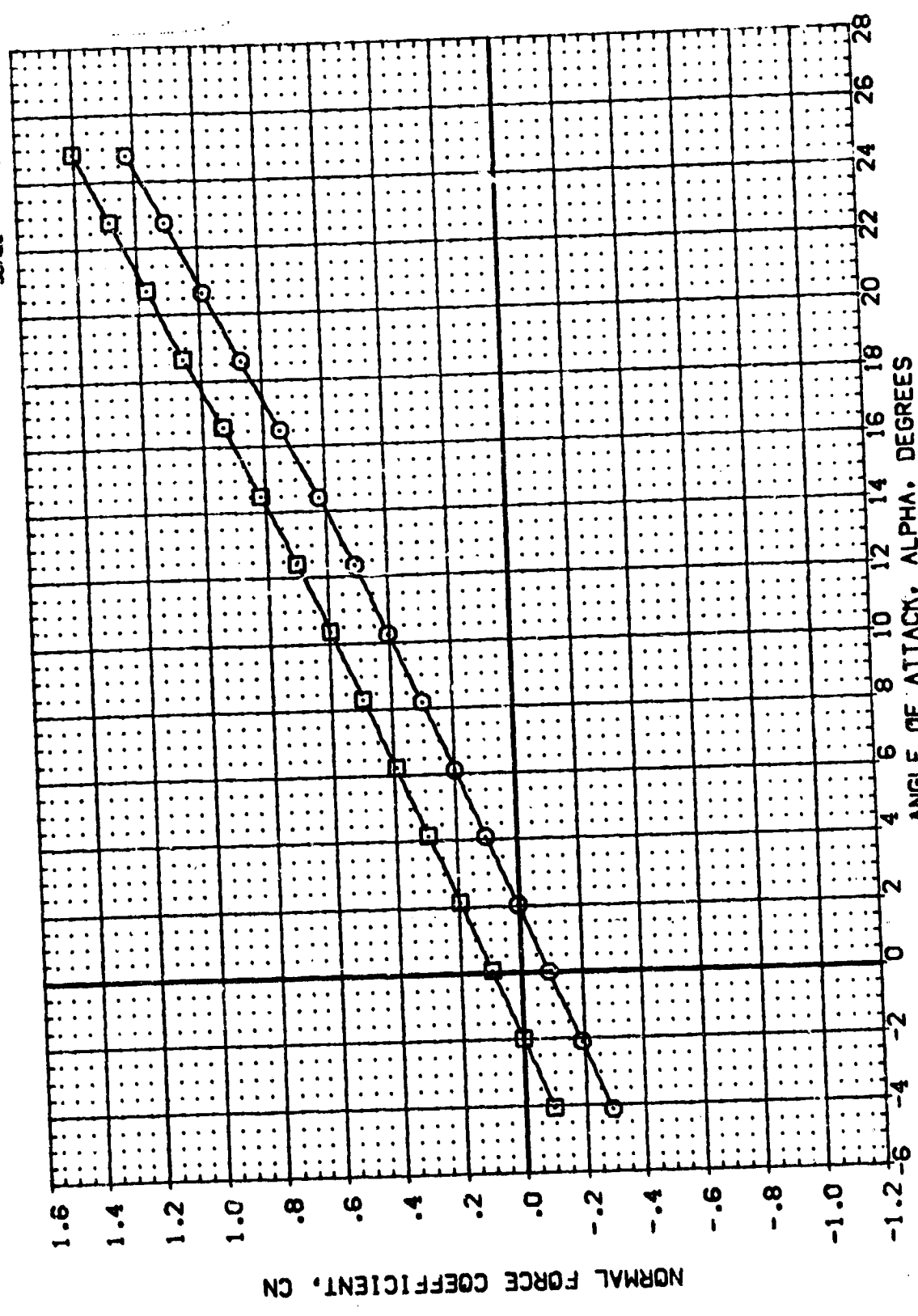


FIGURE 29 ELEVON EFFECTIVENESS WITH HIS CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .15

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(DP163)	0A21 B17C7H15M4F5 V107E23V7R6 X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP170)	0A21 B17C7H15M4F5 V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF 19.2259 INCHES
						BREF 37.9359 INCHES
						XMRP 43.5874 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

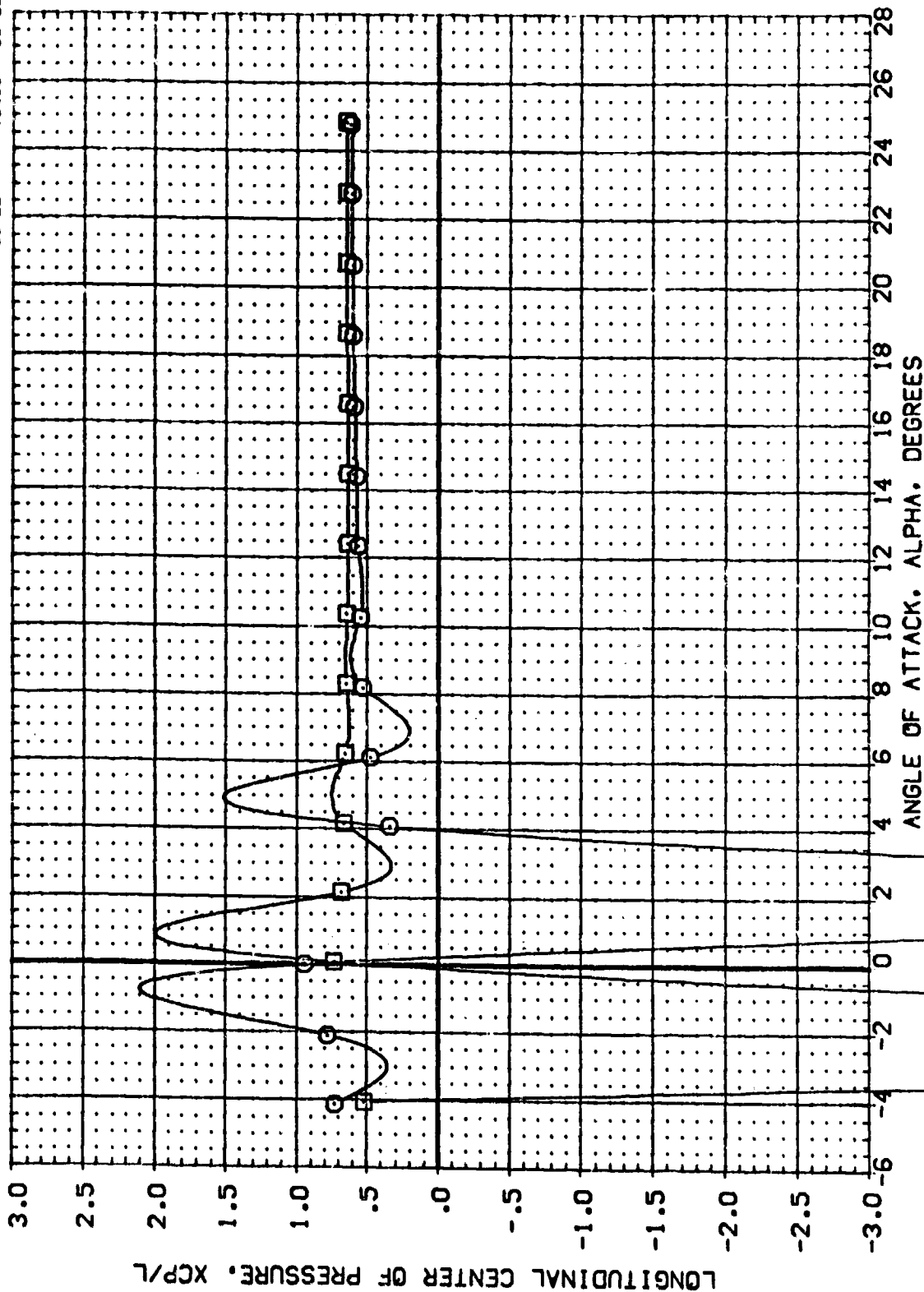


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16



DATA SET SYMBOL: 0A21 817C7H15MAFS V107E23V7R6 X9  
 0A21 817C7H15MAFS V107E23V7R6 X9

ELEVON AILRON BDCLAP SPORBN  
 10.000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

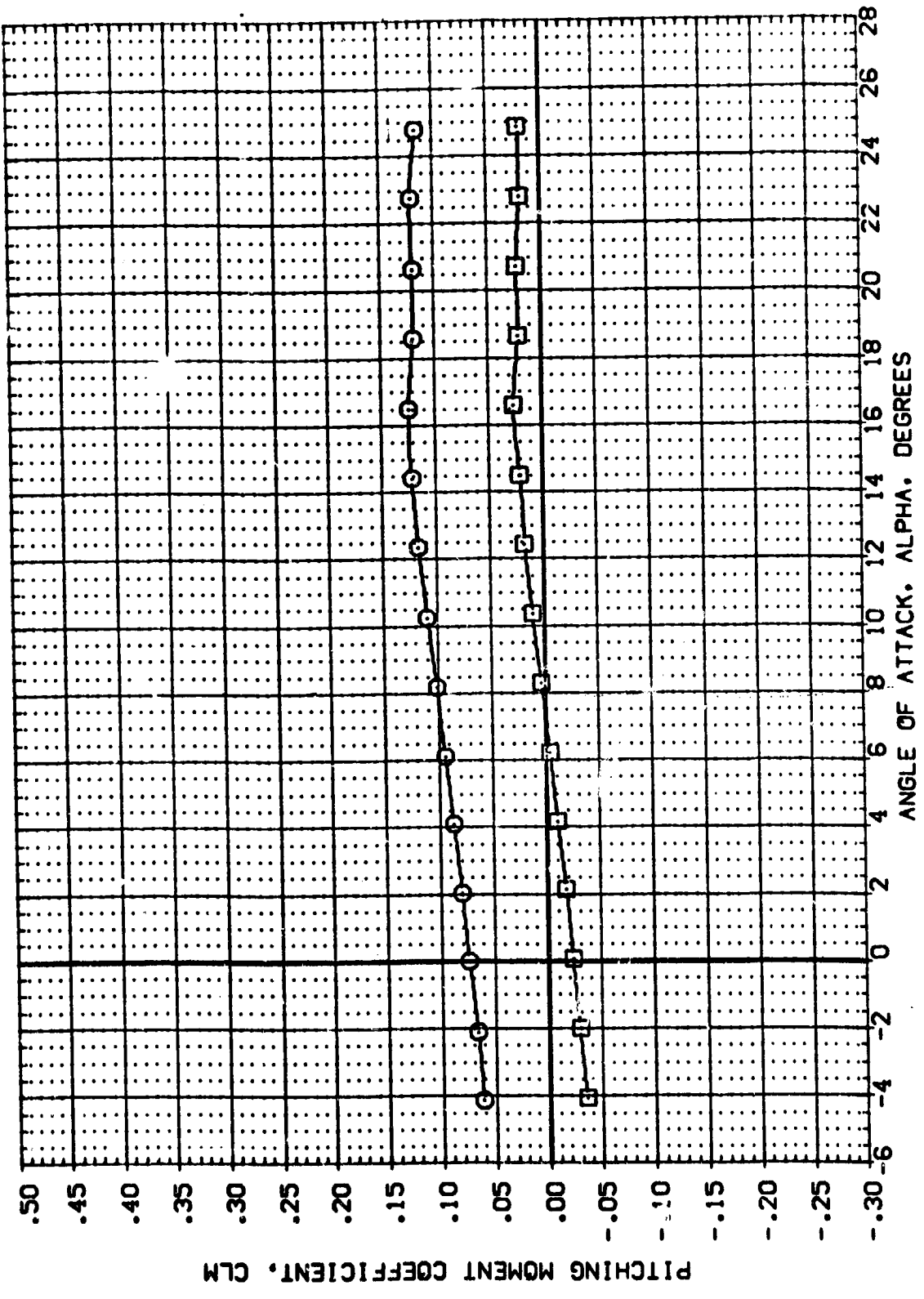


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(COOP170) O	QA21 B17C7H134AF5 V107E23V7R6 X9

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
1	100% of the data set
2	50% of the data set
3	25% of the data set
4	12.5% of the data set
5	6.25% of the data set
6	3.125% of the data set
7	1.5625% of the data set
8	0.78125% of the data set
9	0.390625% of the data set
10	0.1953125% of the data set
11	0.09765625% of the data set
12	0.048828125% of the data set
13	0.0244140625% of the data set
14	0.01220703125% of the data set
15	0.006103515625% of the data set
16	0.0030517578125% of the data set
17	0.00152587890625% of the data set
18	0.000762939453125% of the data set
19	0.0003814697265625% of the data set
20	0.00019073486328125% of the data set
21	9.5367431640625e-05% of the data set
22	4.76837158203125e-05% of the data set
23	2.384185791015625e-05% of the data set
24	1.1920928955078125e-05% of the data set
25	5.9604644775390625e-06% of the data set
26	2.980232238769531e-06% of the data set
27	1.4901161193847656e-06% of the data set
28	7.450580596923828e-07% of the data set
29	3.725290298461914e-07% of the data set
30	1.862645149230957e-07% of the data set
31	9.313225746154785e-08% of the data set
32	4.656612873077392e-08% of the data set
33	2.328306436538696e-08% of the data set
34	1.164153218269348e-08% of the data set
35	5.82076609134674e-09% of the data set
36	2.91038304567337e-09% of the data set
37	1.455191522836685e-09% of the data set
38	7.275957614183425e-10% of the data set
39	3.637978807091712e-10% of the data set
40	1.818989403545856e-10% of the data set
41	9.09494701772928e-11% of the data set
42	4.54747350886464e-11% of the data set
43	2.27373675443232e-11% of the data set
44	1.13686837721616e-11% of the data set
45	5.6843418860808e-12% of the data set
46	2.8421709430404e-12% of the data set
47	1.4210854715202e-12% of the data set
48	7.105427357601e-13% of the data set
49	3.5527136788005e-13% of the data set
50	1.77635683940025e-13% of the data set
51	8.88178419700125e-14% of the data set
52	4.440892098500625e-14% of the data set
53	2.2204460492503125e-14% of the data set
54	1.1102230246251562e-14% of the data set
55	5.551115123125781e-15% of the data set
56	2.7755575615628906e-15% of the data set
57	1.3877787807814453e-15% of the data set
58	6.938893903907226e-16% of the data set
59	3.469446951953613e-16% of the data set
60	1.7347234759768065e-16% of the data set
61	8.673617379884032e-17% of the data set
62	4.336808689942016e-17% of the data set
63	2.168404344971008e-17% of the data set
64	1.084202172485504e-17% of the data set
65	5.42101086242752e-18% of the data set
66	2.71050543121376e-18% of the data set
67	1.35525271560688e-18% of the data set
68	6.7762635780344e-19% of the data set
69	3.3881317890172e-19% of the data set
70	1.6940658945086e-19% of the data set
71	8.470329472543e-20% of the data set
72	4.2351647362715e-20% of the data set
73	2.11758236813575e-20% of the data set
74	1.058791184067875e-20% of the data set
75	5.293955920339375e-21% of the data set
76	2.6469779601696875e-21% of the data set
77	1.3234889800848437e-21% of the data set
78	6.617444900424219e-22% of the data set
79	3.3087224502121095e-22% of the data set
80	1.6543612251060547e-22% of the data set
81	8.271806125530274e-23% of the data set
82	4.135903062765137e-23% of the data set
83	2.0679515313825685e-23% of the data set
84	1.0339757656912842e-23% of the data set
85	5.169878828456421e-24% of the data set
86	2.5849394142282105e-24% of the data set
87	1.2924697071141052e-24% of the data set
88	6.462348535570526e-25% of the data set
89	3.231174267785263e-25% of the data set
90	1.6155871338926315e-25% of the data set
91	8.077935669463157e-26% of the data set
92	4.0389678347315785e

MAXELE	DELELE	BOFLAP	SPDPRK
10.000	10.000	-18.000	55.000

REFERENCE INFORMATION		SO.FT.
SREF	4.4119	INCHES
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

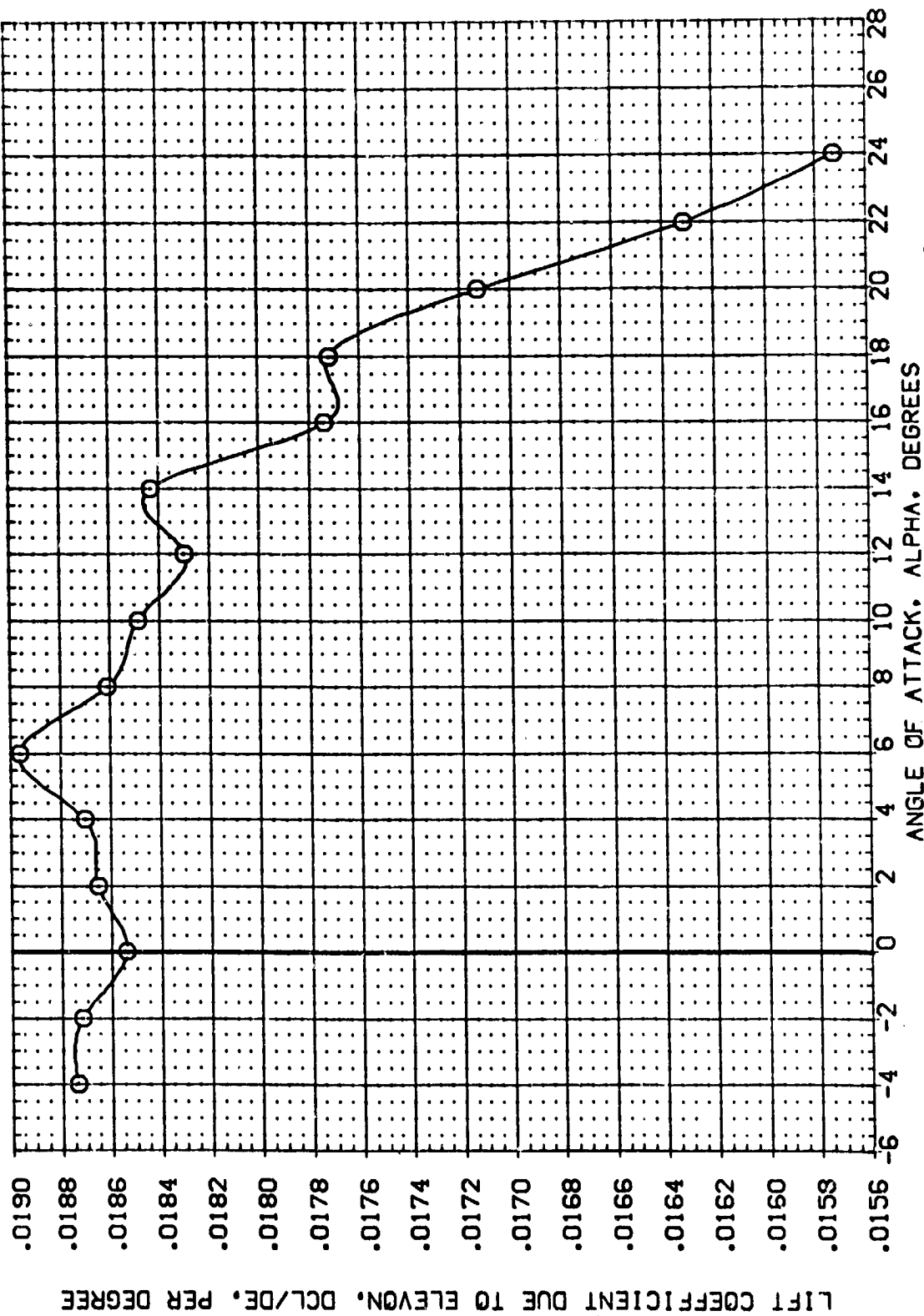


FIGURE 29 FLEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

[ A ] MACH = .16

PAGE 28!

DATA SET SYMBOL    CONFIGURATION DESCRIPTION    XS

(00P170)    O    0A21    B17C7H15H4F5    V107E23V7R6    XS

MAXELE    DELELE    BDFLAP    SPOBRK

10.000    10.000    -18.000    55.000

REFERENCE INFORMATION

SREF    4.4119    50.FT.

LREF    19.2299    INCHES

BREF    37.9359    INCHES

XMRP    43.5874    INCHES

YMRP    .0000    INCHES

ZMRP    16.2000    INCHES

SCALE    .0405    SCALE

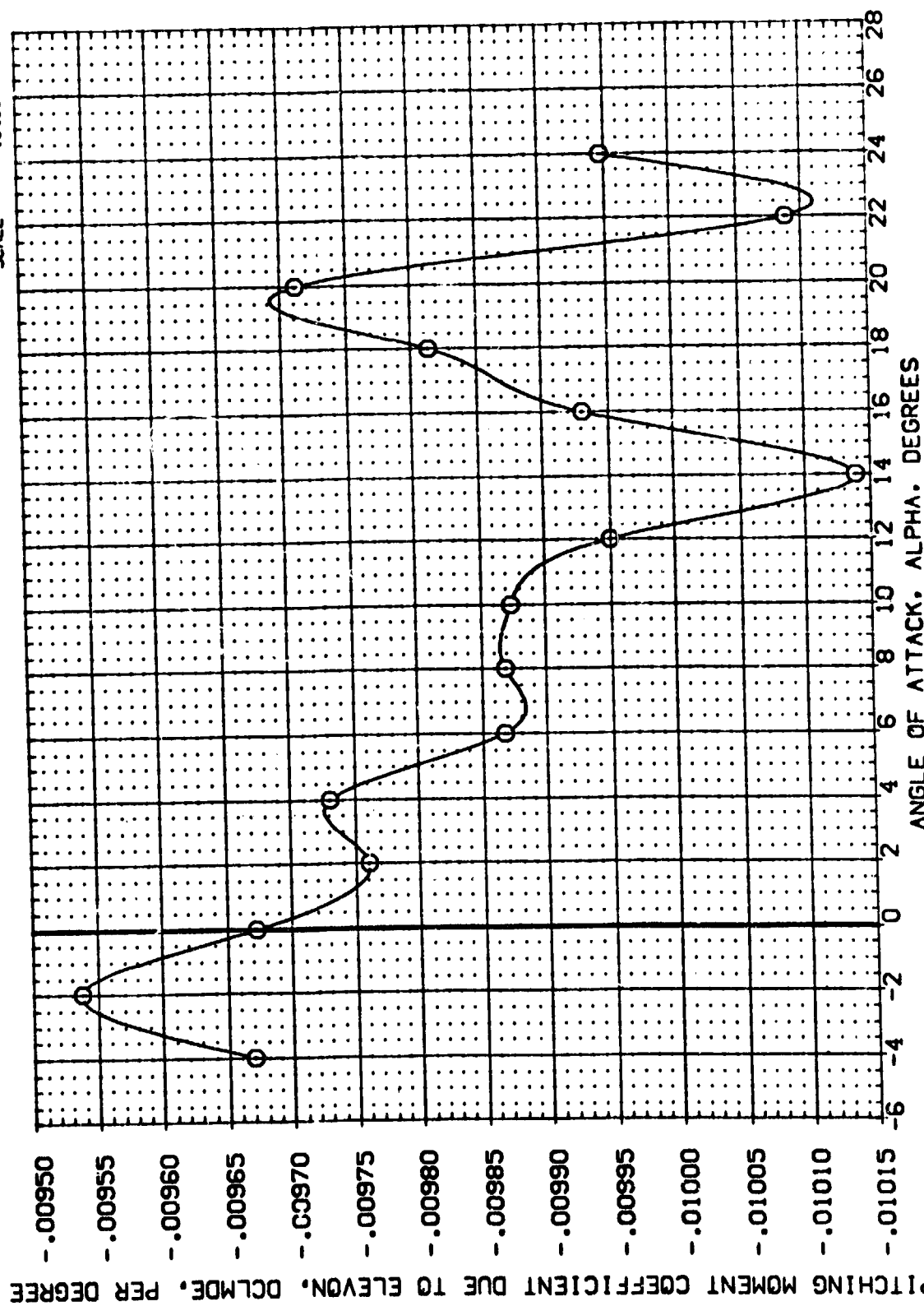


FIGURE 29 ELEVON EFFECTIVENESS WITH H15 CANARD ( 45 DEG. DIHEDRAL )

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION	
(IDP161)	□	0A21 B17C7H18M4FS V107E23V7R6XS	.000	.000	-18.000	55.000	SREF	4.4119 50.FT. INCHES
(IDP156)	□	0A21 B17C7H18M4FS V107E23V7R6XS	10.000	.000	-18.000	55.000	LREF	19.2299 INCHES
							BREF	37.9359 INCHES
							XMRP	43.5974 INCHES
							YMRP	16.0000 INCHES
							ZMRP	16.2000 INCHES
							SCALE	.0405

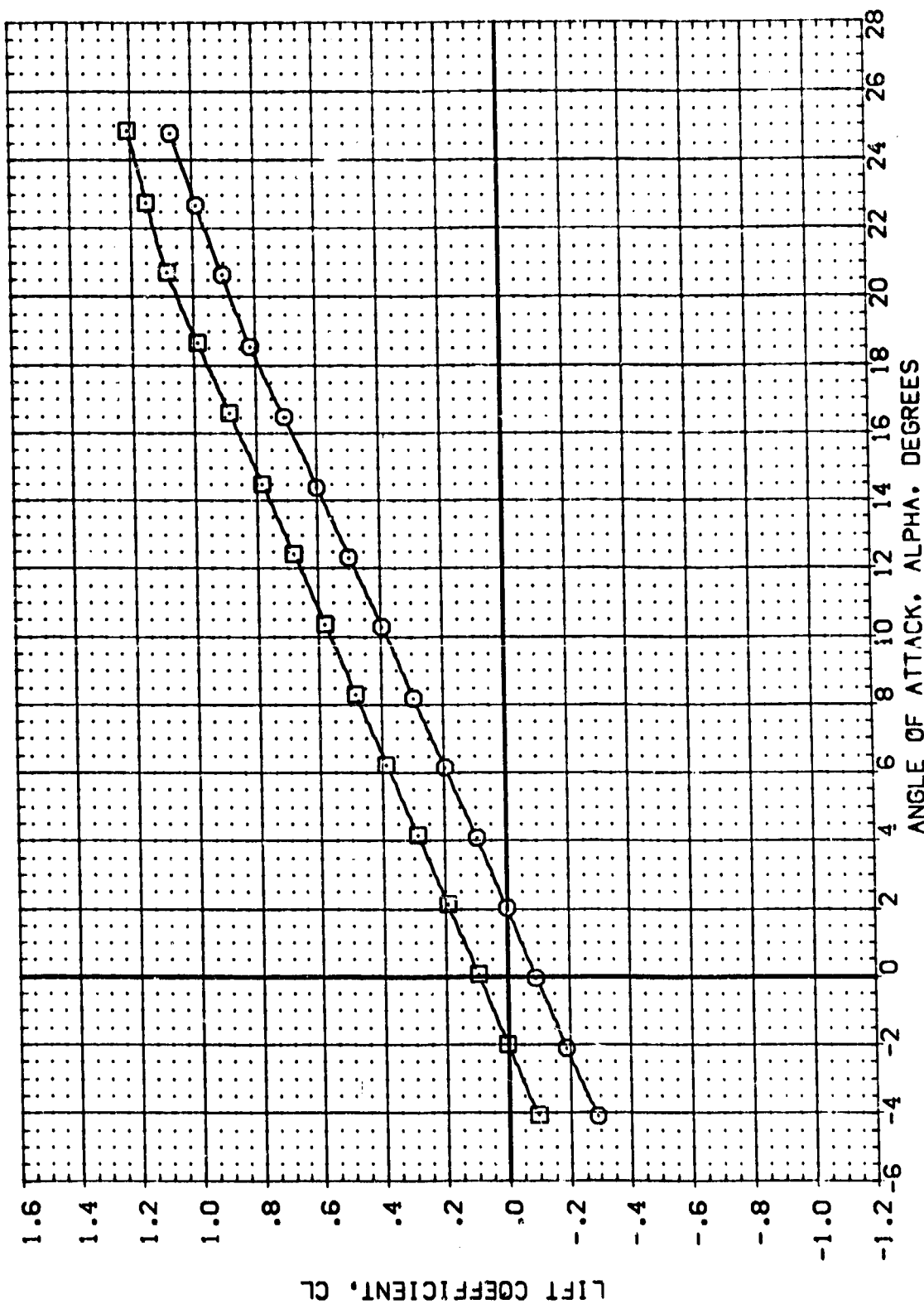


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(10P161)	0A21	817C7H184F5	V107E23V7R6X9	SREF	4.4119
(10P156)	0A21	817C7H184F5	V107E23V7R6X9	LREF	19.2299
				BREF	37.9359
				XMRP	43.5974
				YMRP	10.0000
				ZMRP	16.2000
				SCALE	.0405

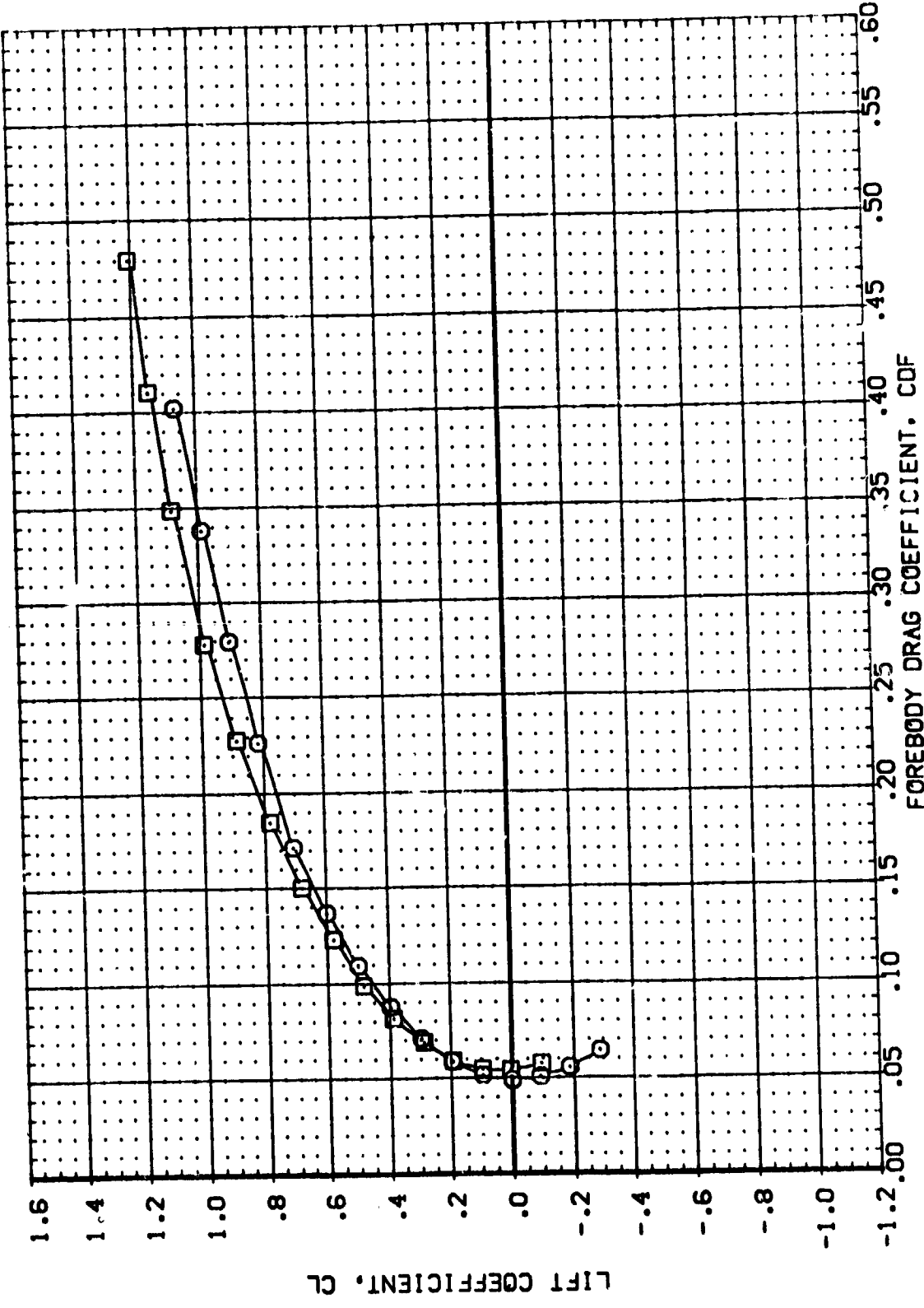


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP161)	0A21	B17C7H1B4F5	V107E23V7R6X9	SREF	4.4119 SQ.FT.
(IDP156)	0A21	B17C7H1B4F5	V107E23V7R6X9	LREF	19.2288 INCHES
				BREF	37.9359 INCHES
				XMRP	43.5974 INCHES
				YMRP	.0000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405 INCHES

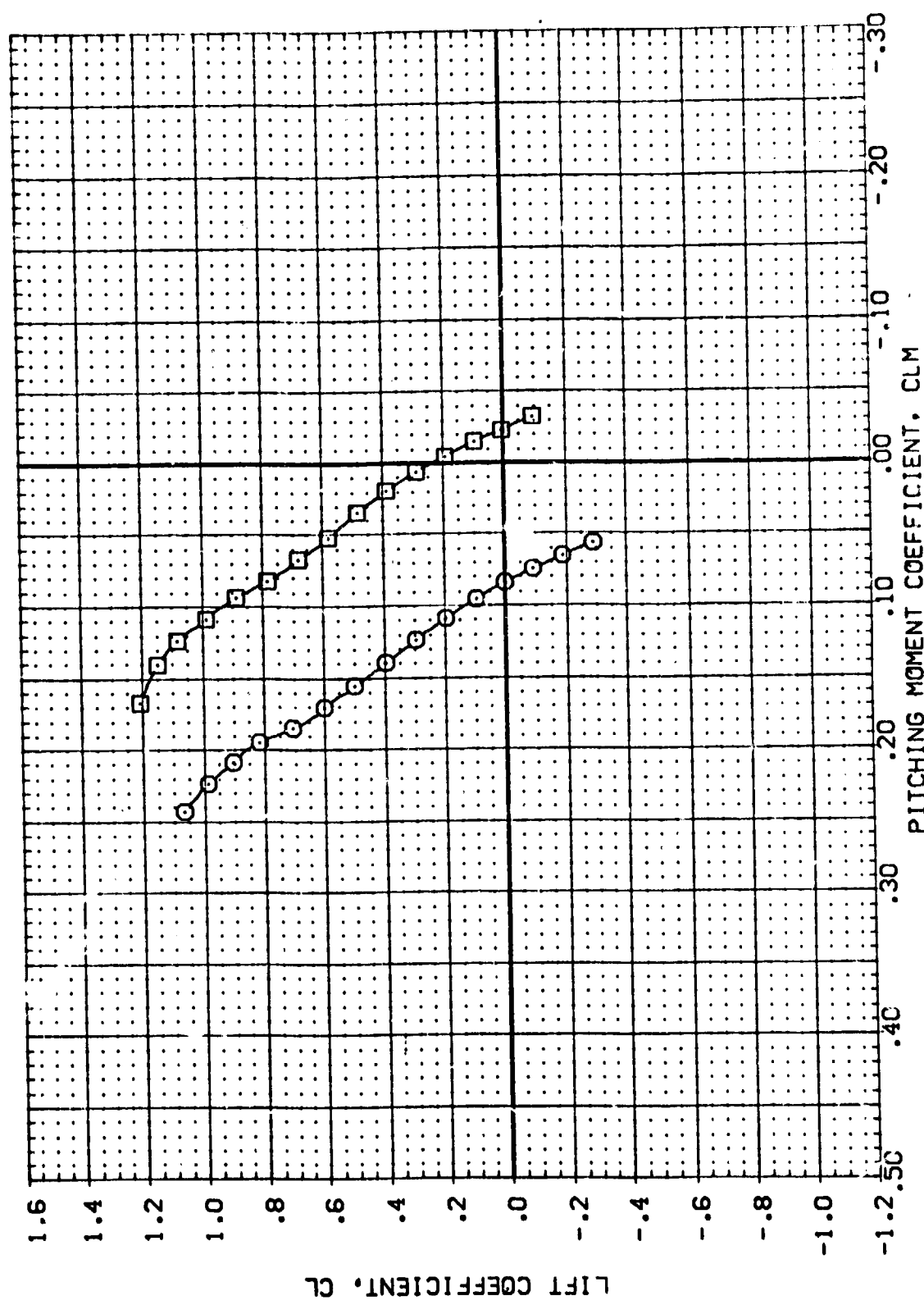


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16

DATA SET SYMBOL: 8  
 (IDP161)  
 (IDP156)

CONFIGURATION DESCRIPTION:  
 817C7H16HAFS V107E23V7R6X9  
 817C7H16HAFS V107E23V7R6X9

ELEVON: 10.000  
 .000  
 .000

AIRLON: .000  
 .000  
 .000

BD/CLAP: -18.000  
 -18.000  
 -18.000

SP/DBRK: 55.000  
 55.000  
 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2289 INCHES  
 BREF: 37.9359 INCHES  
 YMRP: 43.5574 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

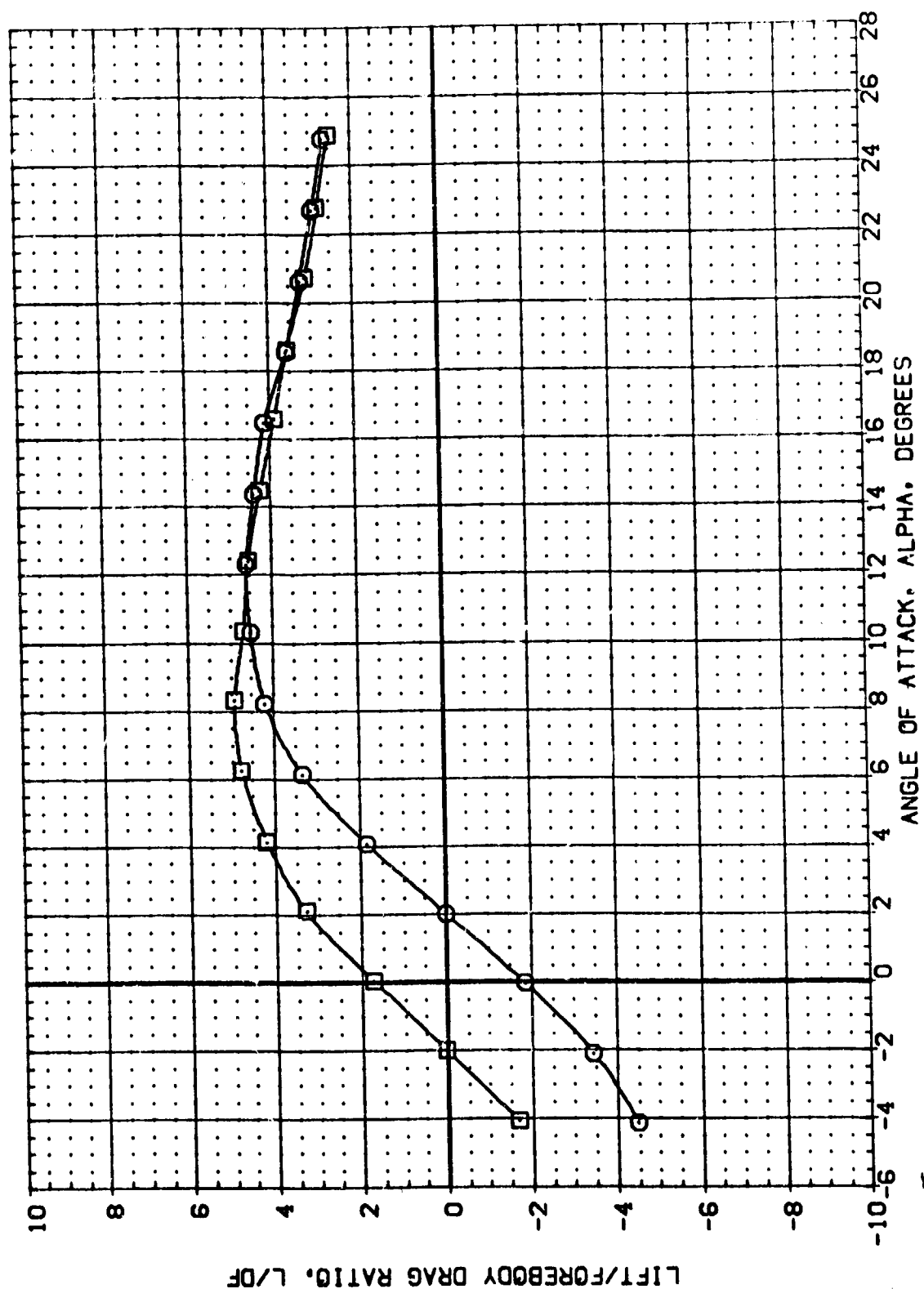


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(M)MACH = .16

DATA SET SYMB.		CONFIGURATION DESCRIPTION		ELEVON		ALIGN		REFLAP		SPORON		REFERENCE INFORMATION	
021	021	817CM18MFS	VIGTEZT/MDS	.000	.000	.000	-18.000	.000	55.000	4.4119	50.000	4.4119	50.000
021	021	817CM18MFS	VIGTEZT/MDS	10.000	10.000	.000	-18.000	.000	55.000	19.2259	100.000	19.2259	100.000
										43.5374	100.000	43.5374	100.000
										16.2000	100.000	16.2000	100.000
										.0405	100.000	.0405	100.000

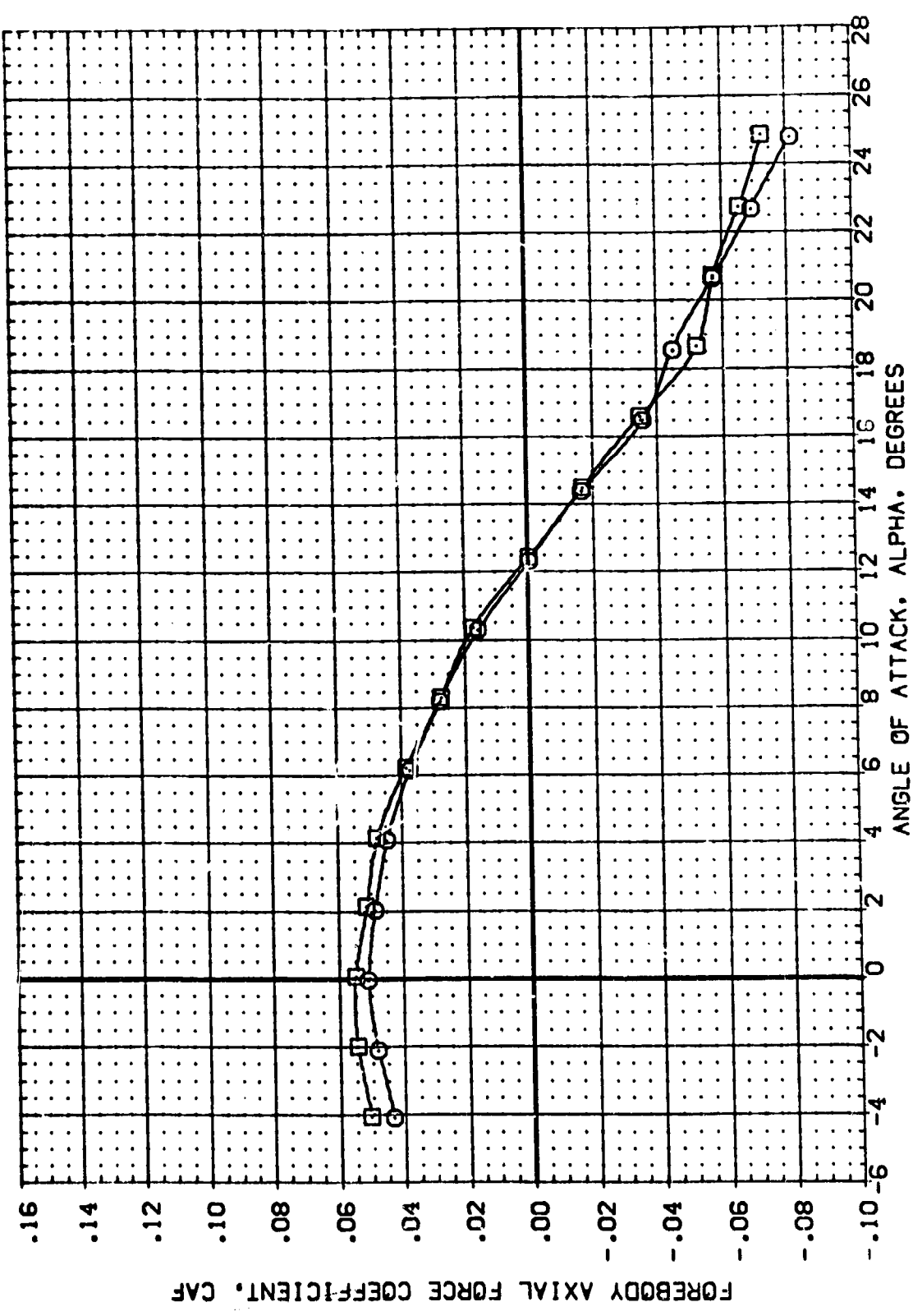


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16



DATA SET SYMBOL: 0A21 817C7H18M4F3 V107E23V7R6X3  
 0A21 817C7H18M4F3 V107E23V7R6X3

ELEVON: 0.000  
 AIRLON: 0.000  
 BOTLAP: -18.000  
 SPDRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 50.000  
 LREF: 19.2759 100.000  
 XREF: 37.5359 100.000  
 YREF: 43.5974 100.000  
 ZREF: 15.2000 100.000  
 SCALE: .0405

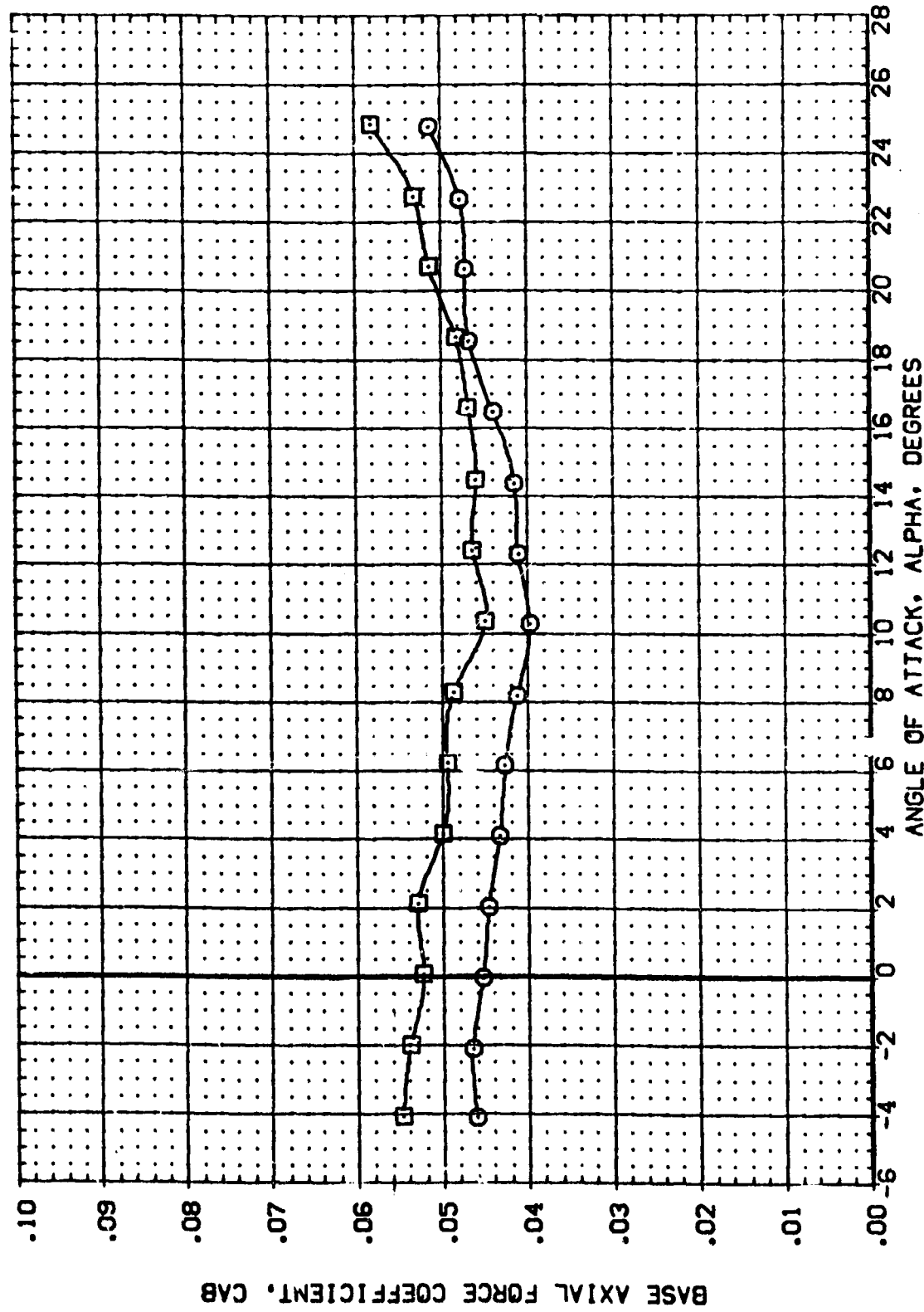


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(M)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (DP161) 0A21 B17C7H18M4F5 V107E23V7R6X9  
 (DP156) 0A21 B17C7H18M4F5 V107E23V7R6X9

ELEVON AILRON BDFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

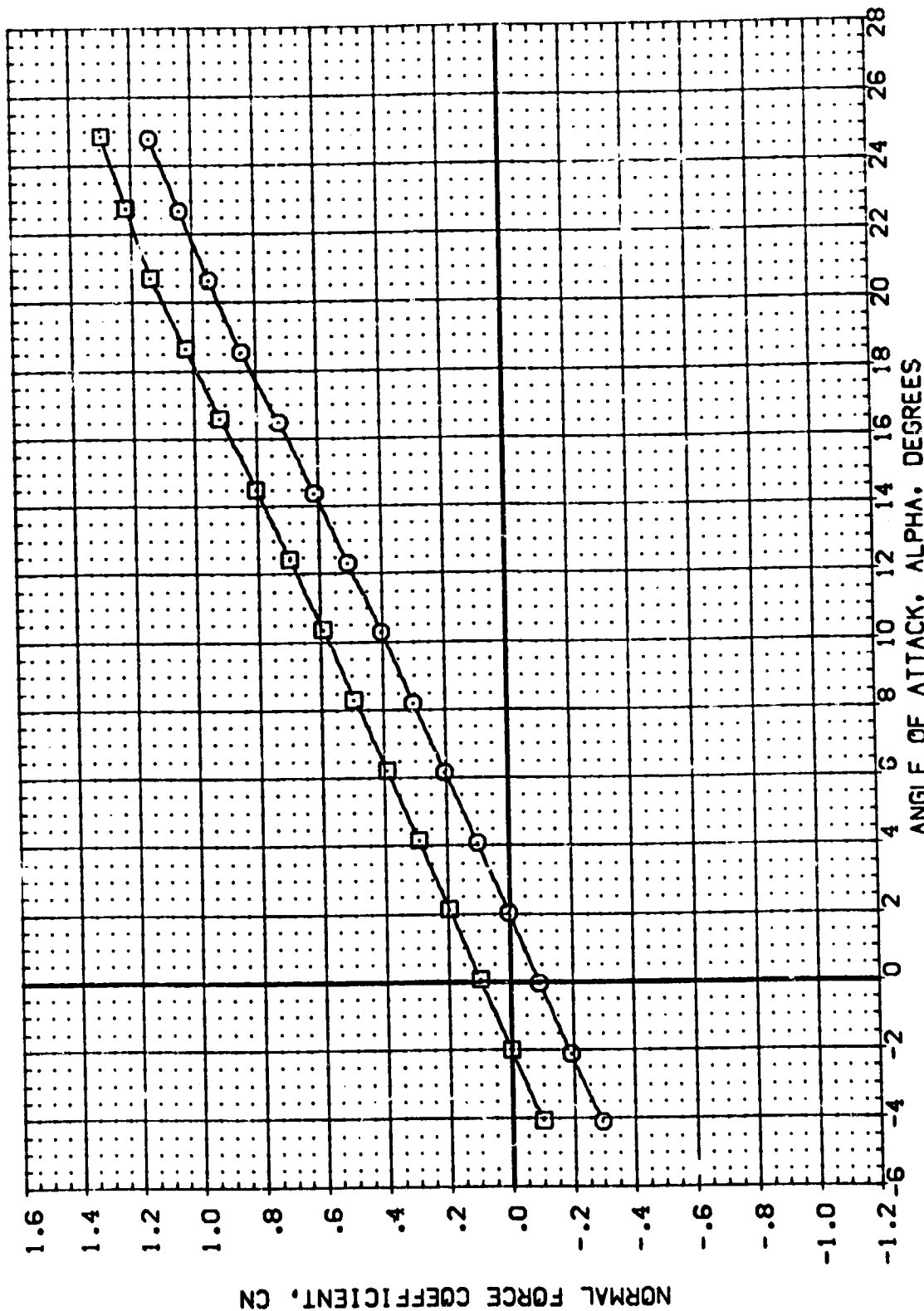


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16

DATA SET SYMBOL  
(IDP16)  
(IDP156)

CONFIGURATION DESCRIPTION  
2A21 B17C7H18M4F5 V107E23/7H6X3  
2A21 B17C7H18M4F5 V107E23/7H6X3

ELEVON AILRON BOFLAP SPOBRK  
.000 .000 -18.000 53.000  
10.000 .000 -18.000 55.000

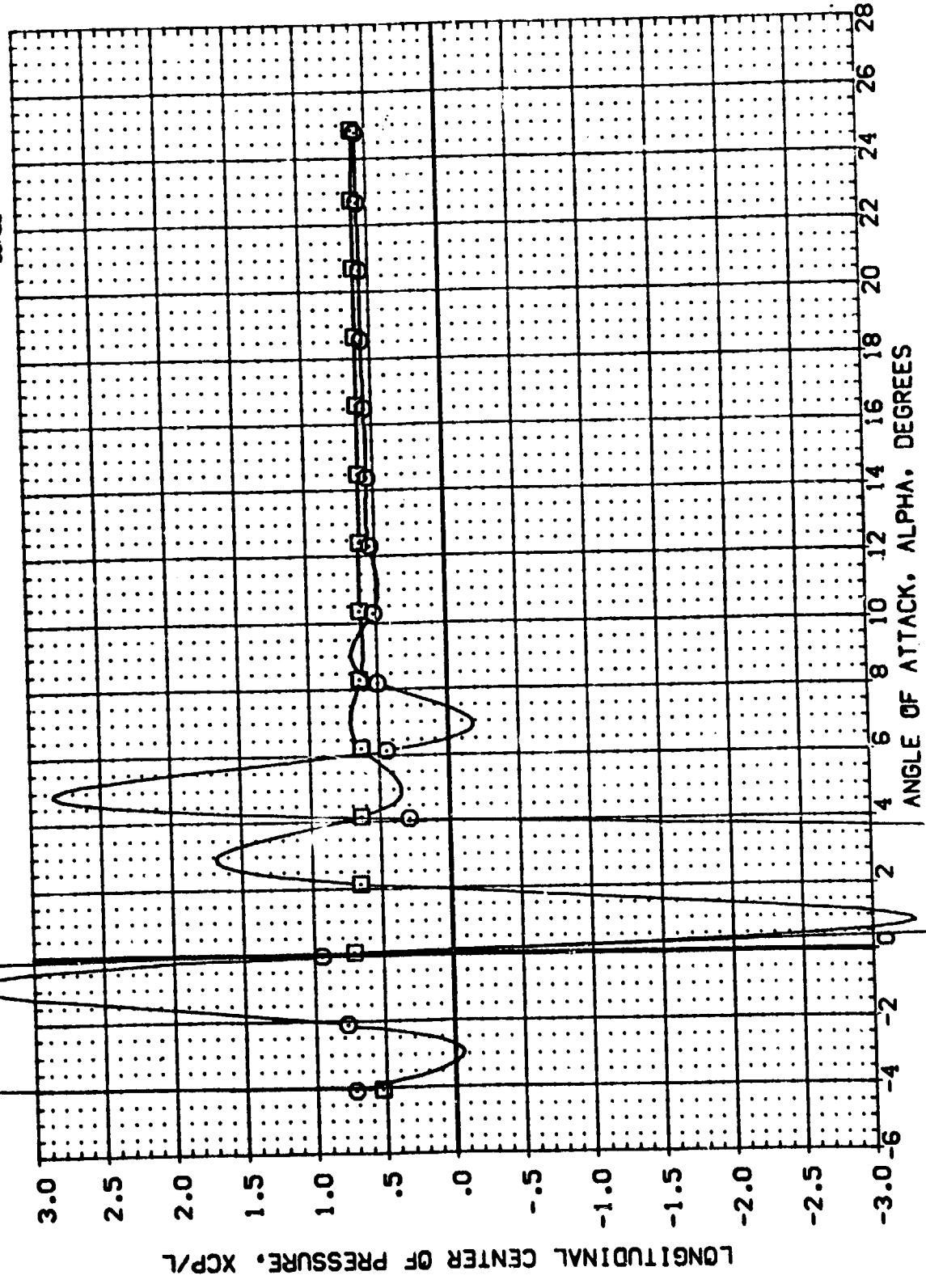


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP161)	DA21	B17C7H16MF5	V107E23V7R6X9	SREF	4.4119 SO.FT.
(IDP156)	DA21	B17C7H16MF5	V107E23V7R6X9	LREF	19.2299 INCHES
				BREF	37.9359 INCHES
				XPRP	43.5974 INCHES
				YPRP	16.0000 INCHES
				ZPRP	16.2000 INCHES
				SCALE	.0405 SCALE

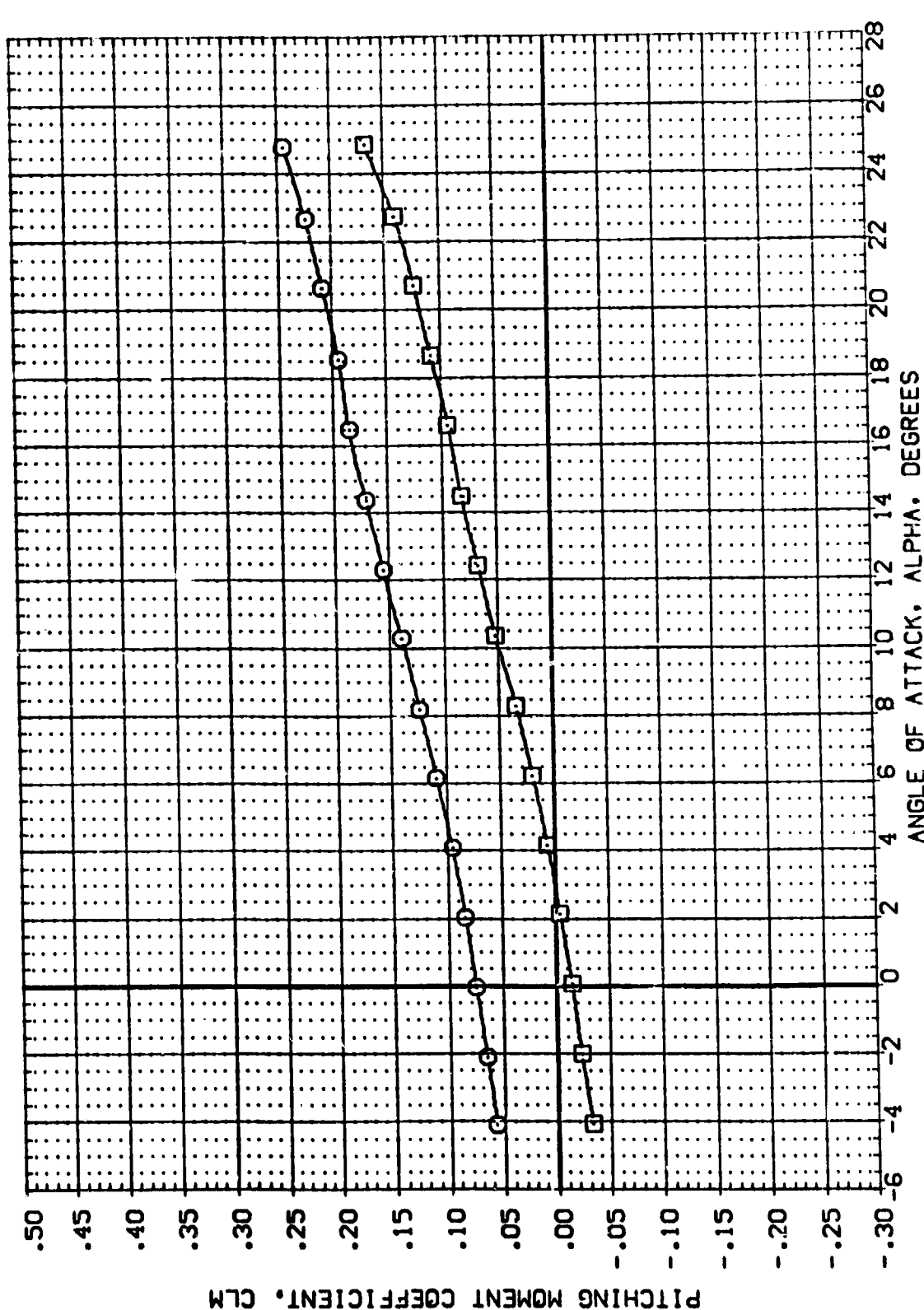


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21 817C7H16HAFS V107E23V7R6N5

MAXELE 10.000 DELELE 10.000 BOFLAP 55.000  
 SPOBRK  
 REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2259 INCHES  
 BREF 37.5359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP 16.0000 INCHES  
 ZPRP 16.0000 INCHES  
 SCALE .0405

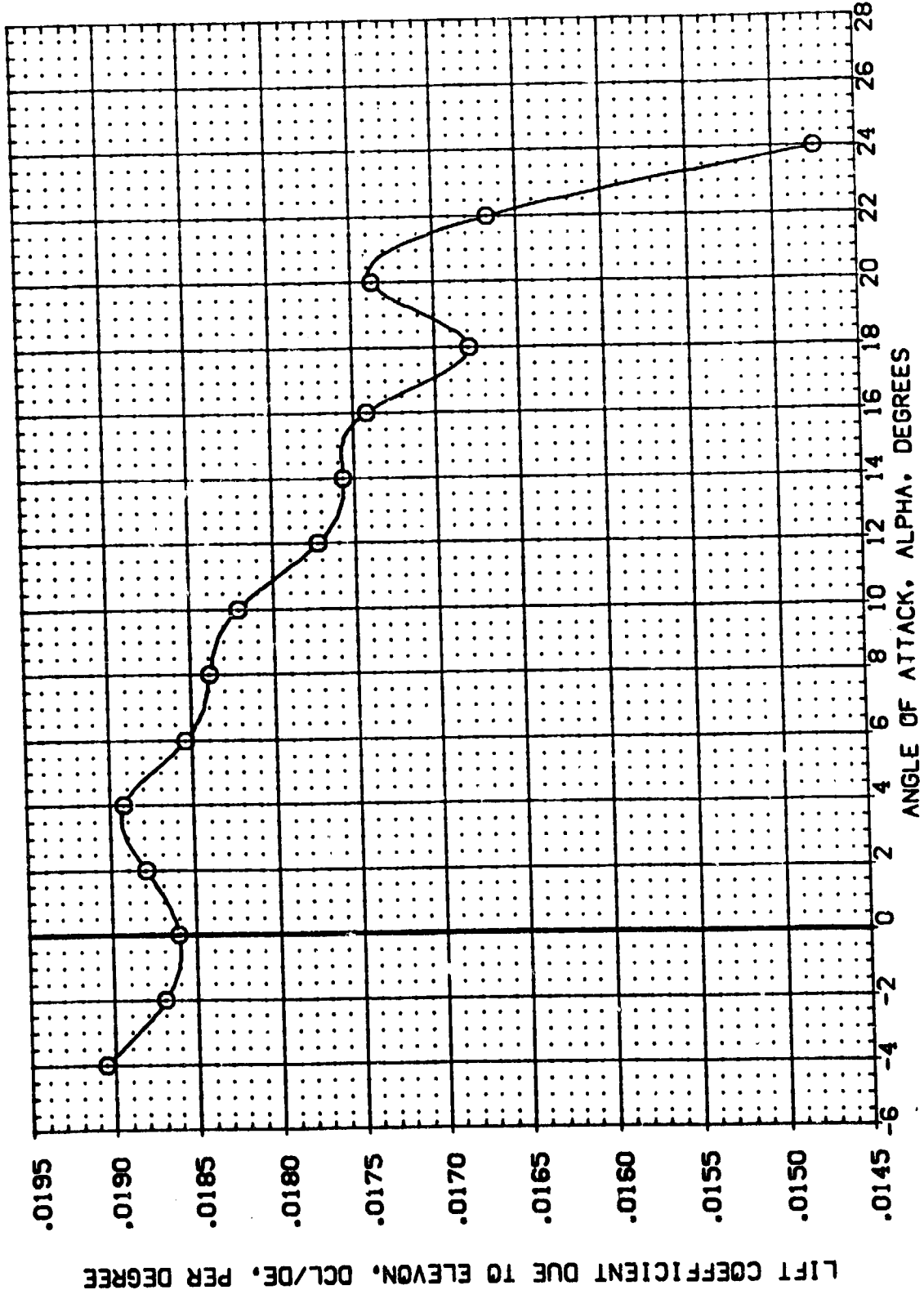


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CALIARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
(00P156) O 0A21 817C7H16H4FS V107E23V7R6X9

MAXELE DELELE BOFLAP SPDBRK  
10.000 10.000 -18.000 55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2288 INCHES  
BREF 37.5359 INCHES  
XTRP 43.5574 INCHES  
YTRP .0000 INCHES  
ZTRP 16.2000 INCHES  
SCALE .0405

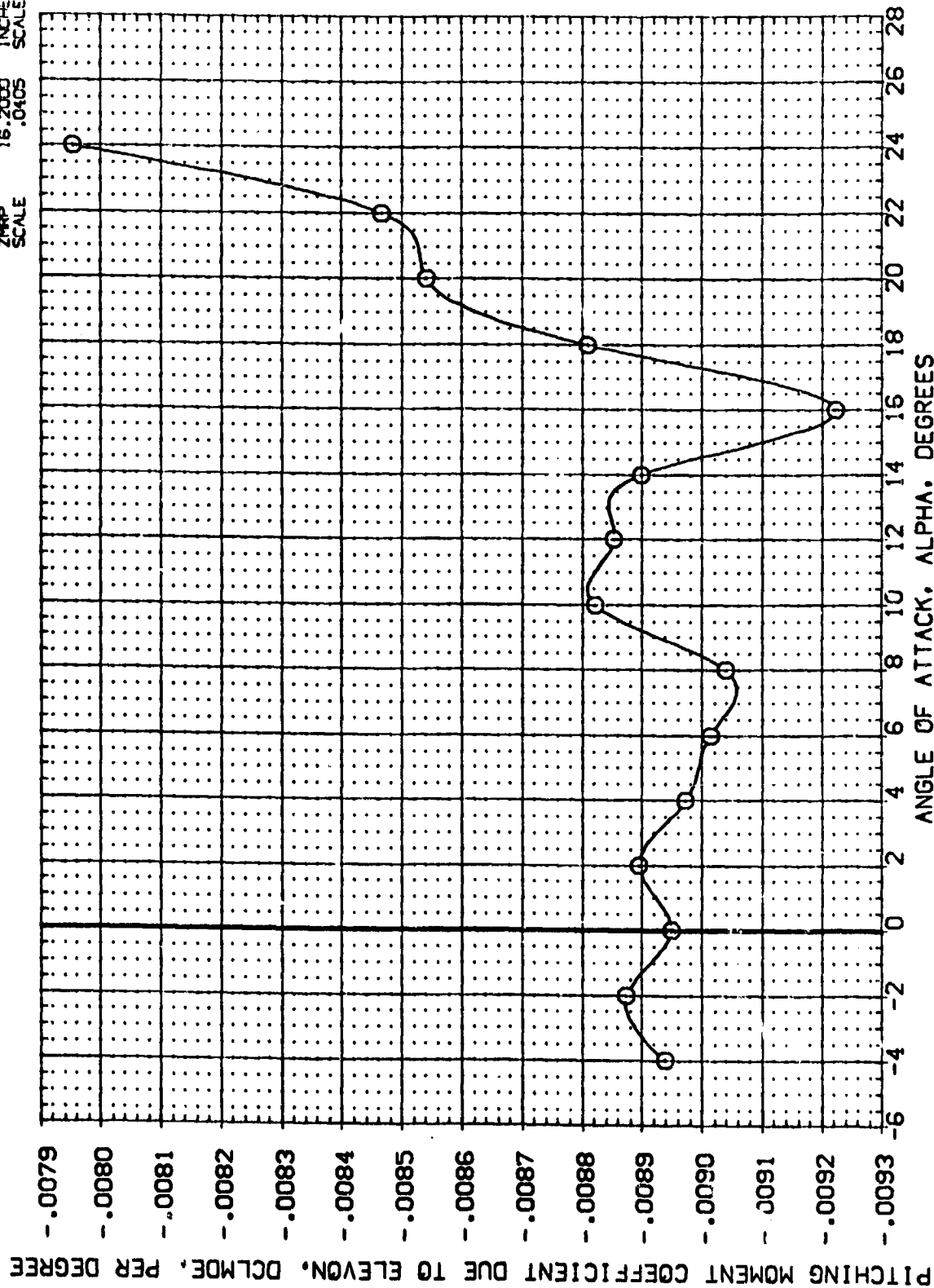


FIGURE 30 ELEVON EFFECTIVENESS WITH H16 CANARD

CAJMACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AIRLON		BOLAP		SPORRK		REFERENCE INFORMATION	
(10P148)	8	0A21	817C7M17MFS	VI07EZ3V7R6S3	.000	.000	.000	-18.000	55.000	SREF	4.4119	50. FT.	
(10P150)	8	0A21	817C7M17MFS	VI07EZ3V7R6S3	.000	.000	.000	-18.000	55.000	LREF	19.2299	INCHES	
										BREF	37.5359	INCHES	
										XMRP	43.5974	INCHES	
										YMRP	.0000	INCHES	
										ZMRP	16.2000	INCHES	
										SCALE	.0405	SCALE	

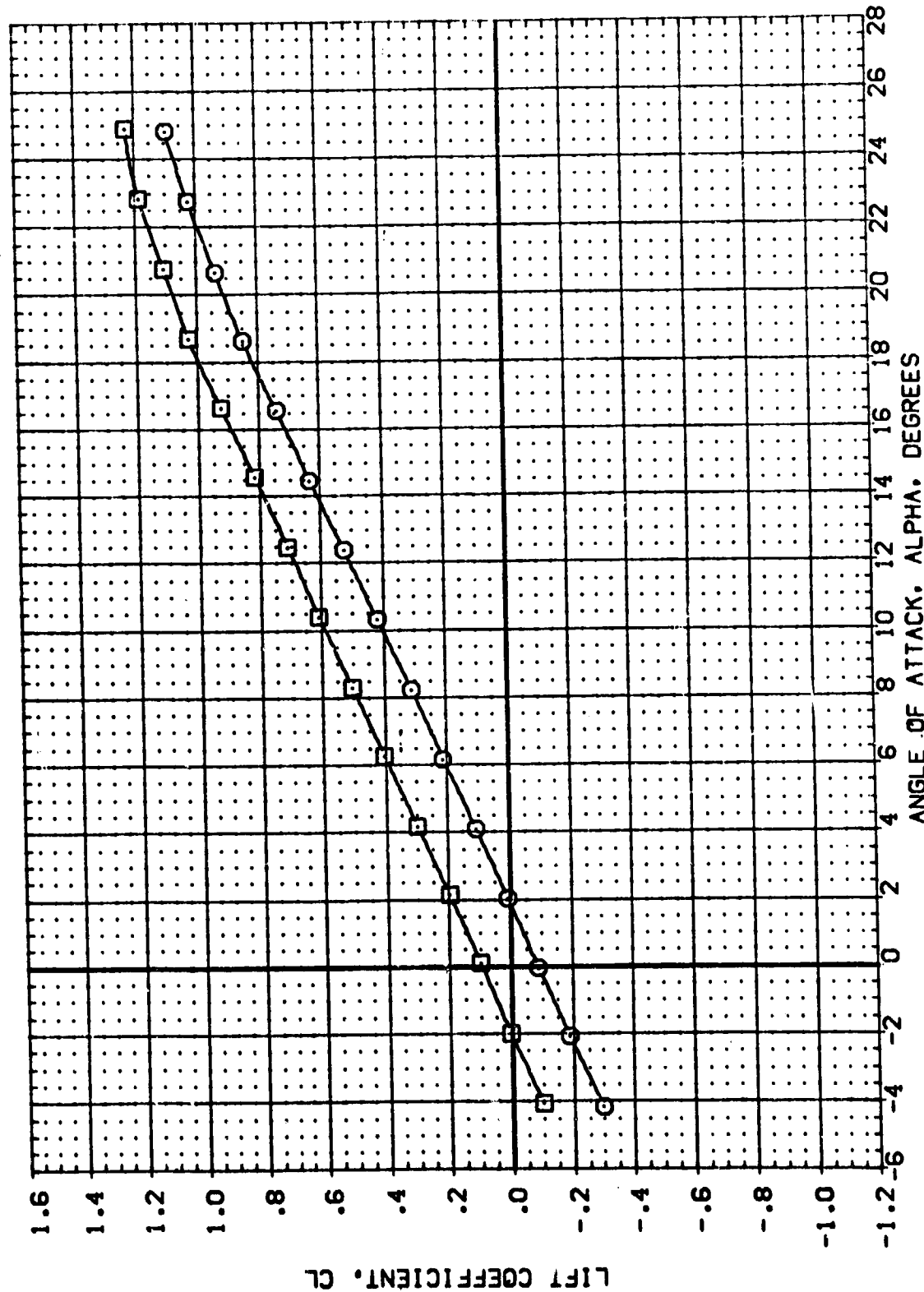


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILRON		BOFLAP		SPOBRK		REFERENCE INFORMATION			
{IDP148}	CA21	B17C7H17M4F5	V107E23V7R6X9	.000	.000	-18.000	.000	.000	55.000	SREF	4.4119	50. FT.	INCHES		
{IDP150}	CA21	B17C7H17M4F5	V107E23V7R6X9	10.000	.000	-18.000	.000	.000	55.000	LREF	19.2299	INCHES	INCHES		
										BREF	37.9359	INCHES	INCHES		
										XMRP	43.5974	INCHES	INCHES		
										YMRP	.0000	INCHES	INCHES		
										ZMRP	16.2000	INCHES	INCHES		
										SCALE	.0405	SCALE	SCALE		

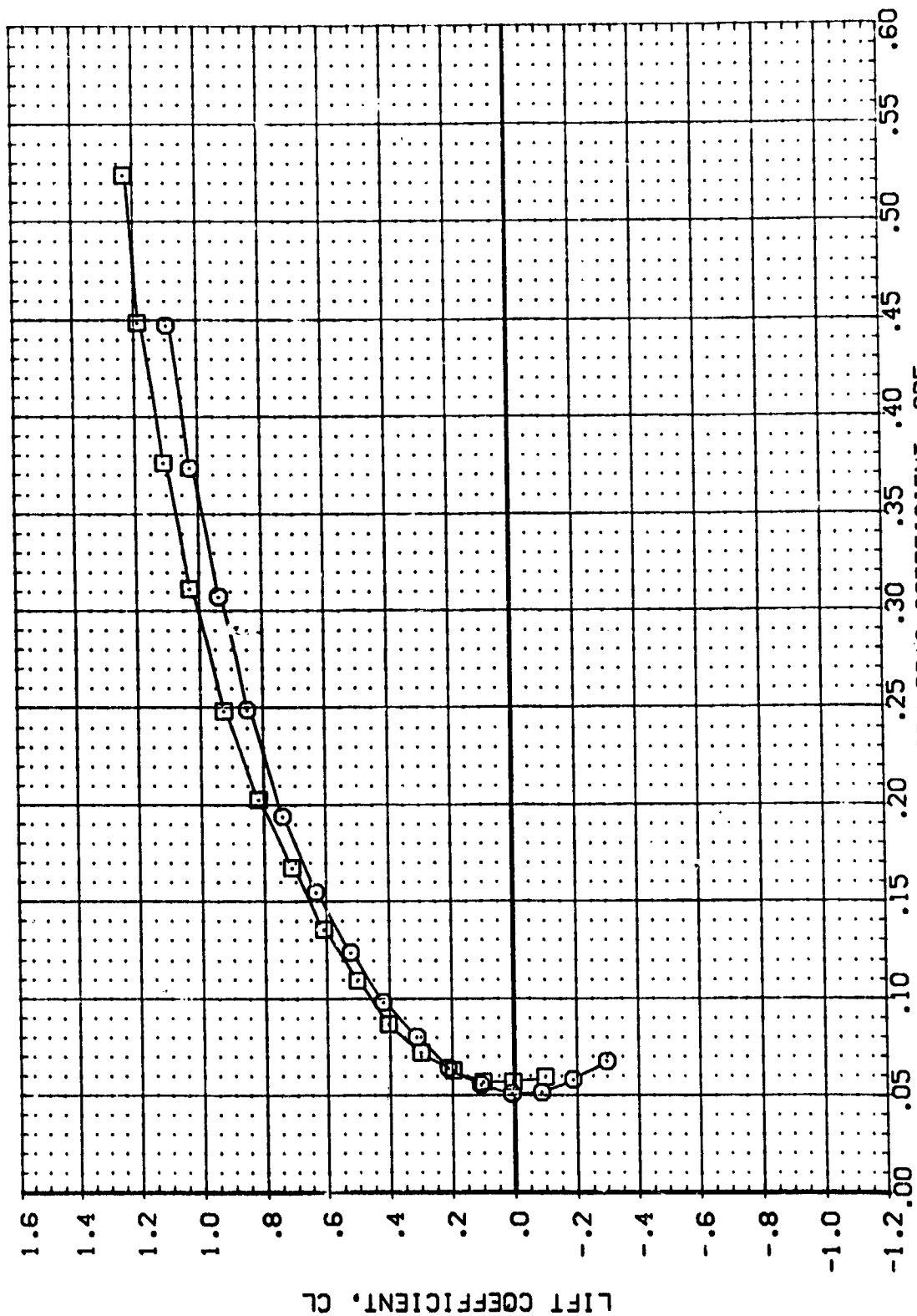


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16



DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (DP148)    □    0A21    B17C7H17M4FS    V107E23V7R6X3  
 (DP150)       0A21    B17C7H17M4FS    V107E23V7R6X3

ELEVON    AIRLON    BOCLAP    SPORBK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2259    INCHES  
 BREF    37.9359    INCHES  
 YGRP    43.59    INCHES  
 YPRP    16.0000    INCHES  
 ZPRP    16.0000    INCHES  
 SCALE    .0405    INCHES

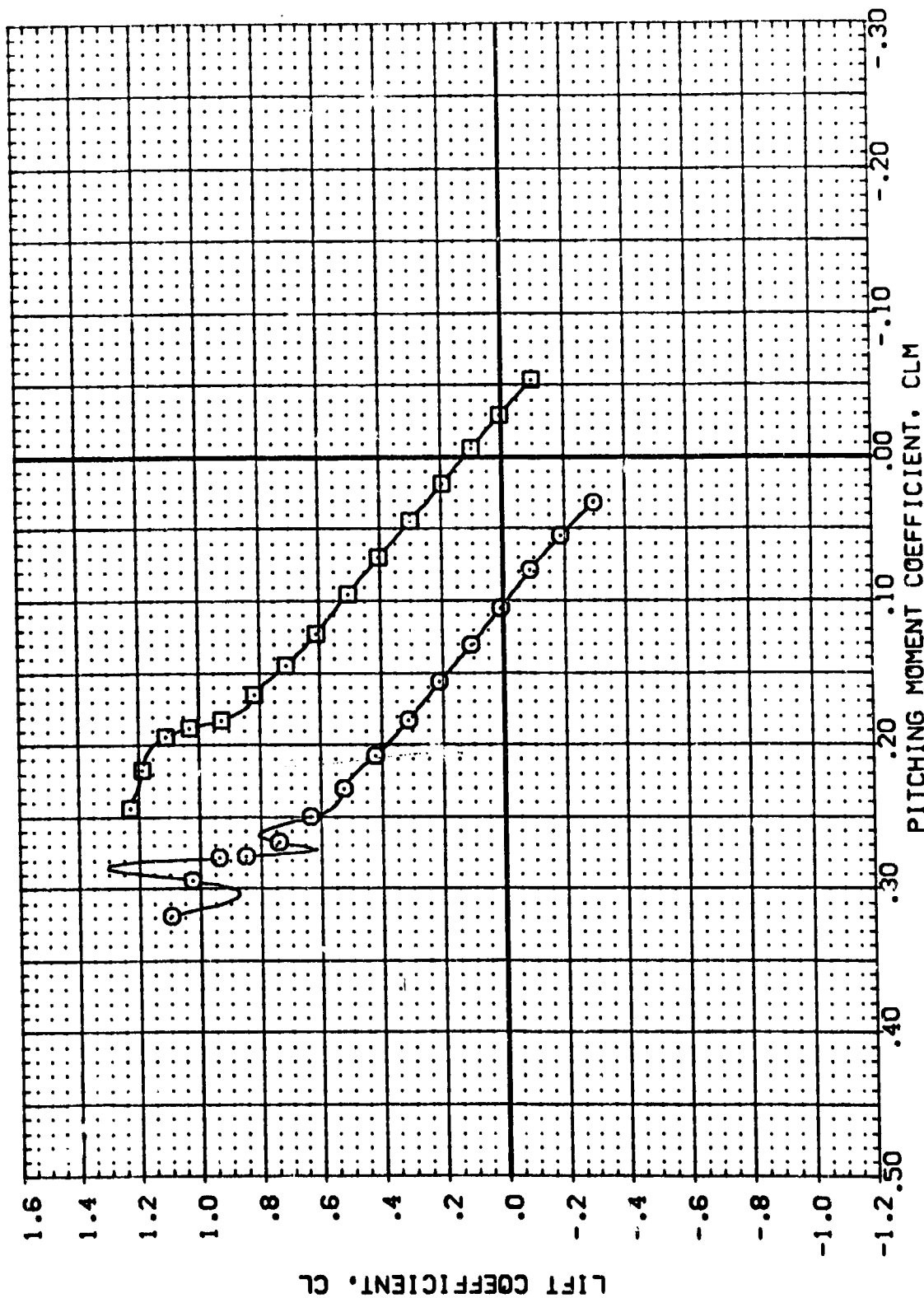


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP148)	□	0A21	817C7H17M4FS	SREF	4.4119 SQ.FT.
(IDP150)	□	0A21	817C7H17M4FS	LREF	19.2299 INCHES
				BREF	37.9359 INCHES
				XMRP	43.5974 INCHES
				YMRP	.0000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405

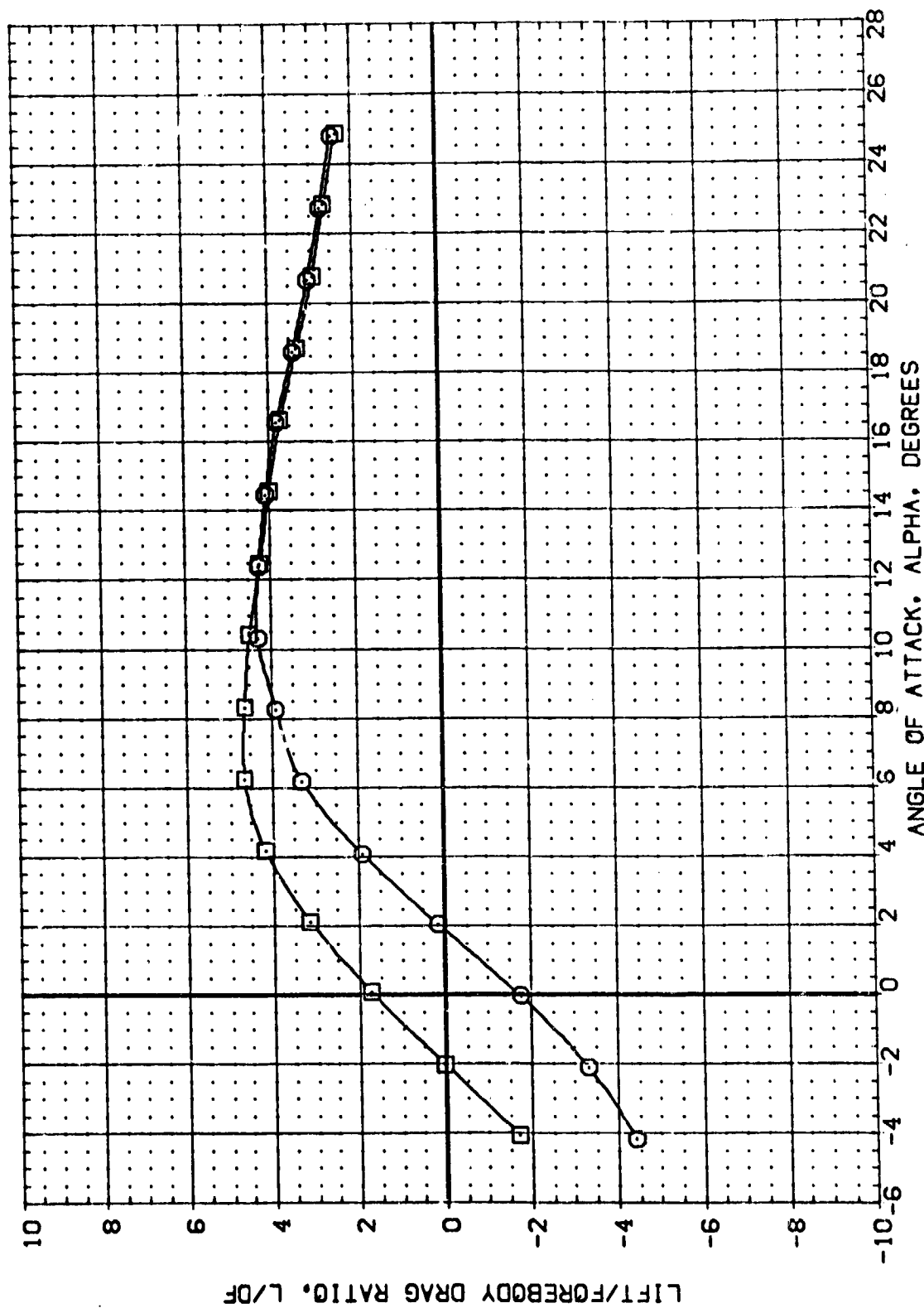


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (IDP148)    □    0A21    B17C7H17M4FS    V107E23V7R6X9  
 (IDP150)    □    0A21    B17C7H17M4FS    V107E23V7R6X9

ELEVON    AILERON    BOFLAP    SPODBK  
 10.000    .000    -18.000    55.000  
 .000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    50. FT.  
 LREF    19.2299    INCHES  
 BREF    37.5358    INCHES  
 XMRP    43.5574    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

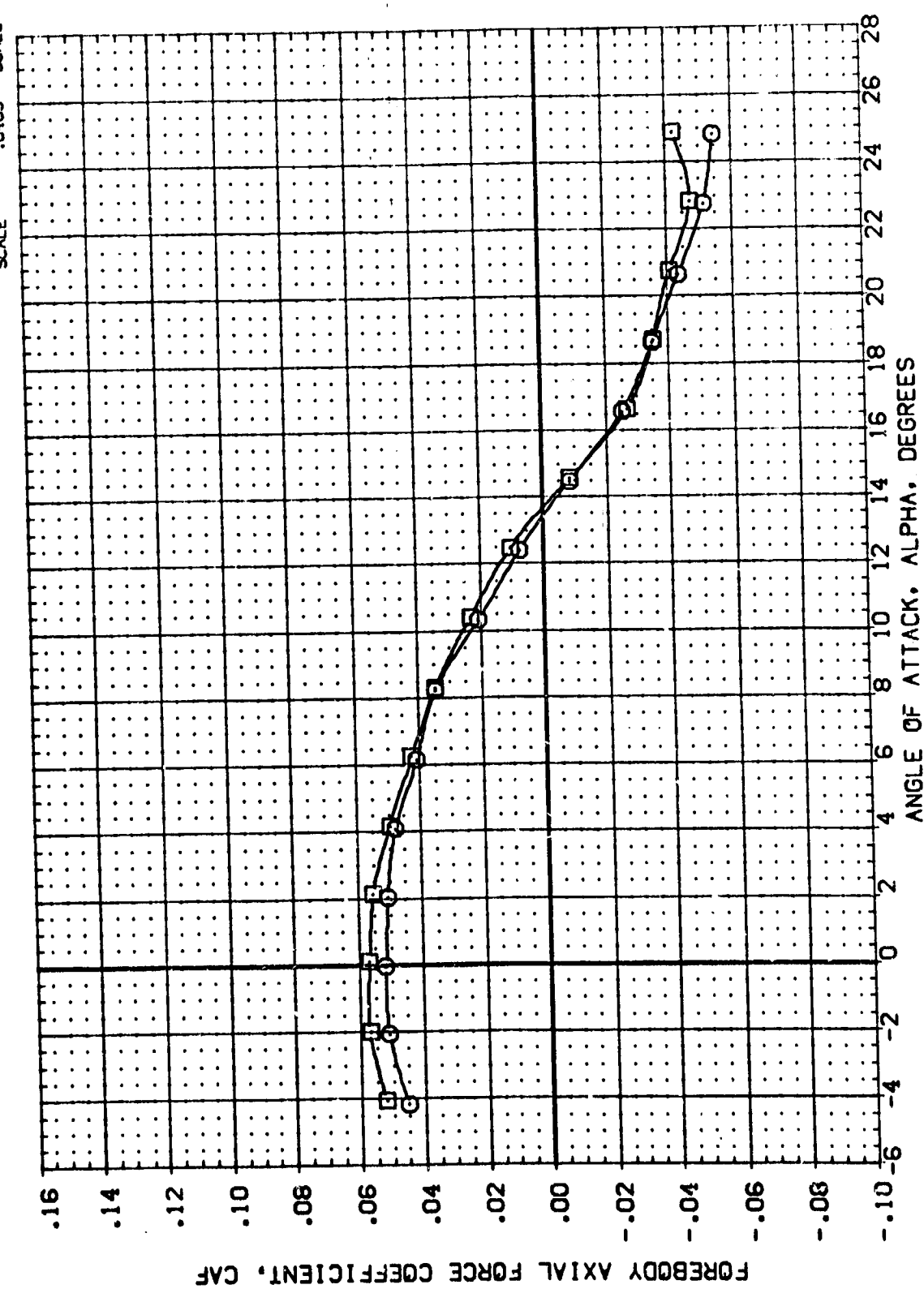


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[DP148]	QA21	B17C7H17M4F5	V107E23V7R6X9	SREF	4.4119 SO.FT.
[DP150]	QA21	B17C7H17M4F5	V107E23V7R6X9	LREF	19.2299 INCHES
				BREF	37.9359 INCHES
				XMRP	43.5974 INCHES
				YMRP	.0000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405 INCHES

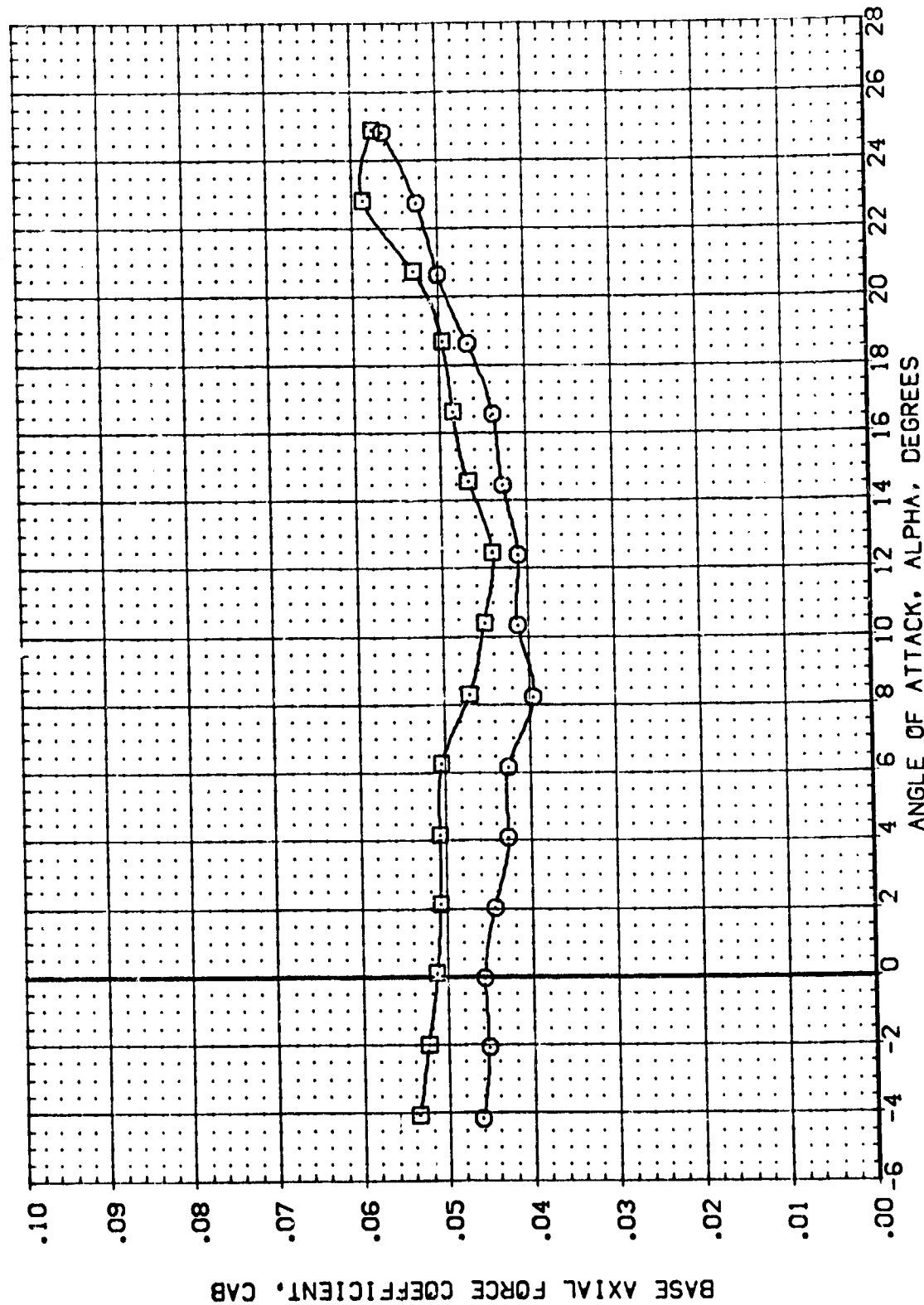


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (ID148)    0A21    817C7H17M4FS    V107E23V7R6XS  
 (ID150)    0A21    817C7H17M4FS    V107E23V7R6XS

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    16.0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405

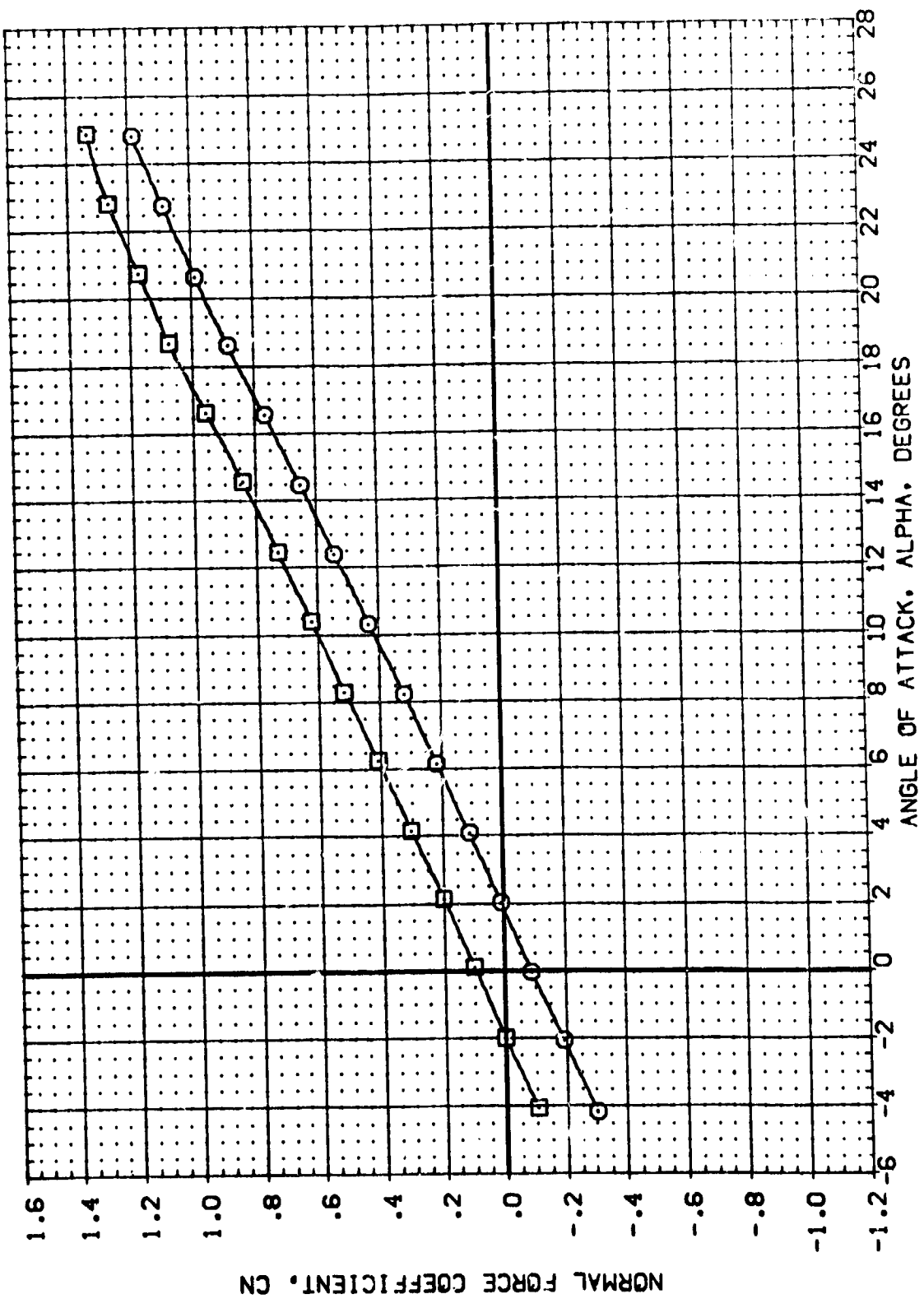


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP148) 0A21 B17C7H17M4FS V107E23V7R6S1S  
 (IDP150) 0A21 B17C7H17M4FS V107E23V7R6S1S

ELEVON AIRLON BOFLAP SPDBRK  
 .000 .000 55.000  
 10.000 .030 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

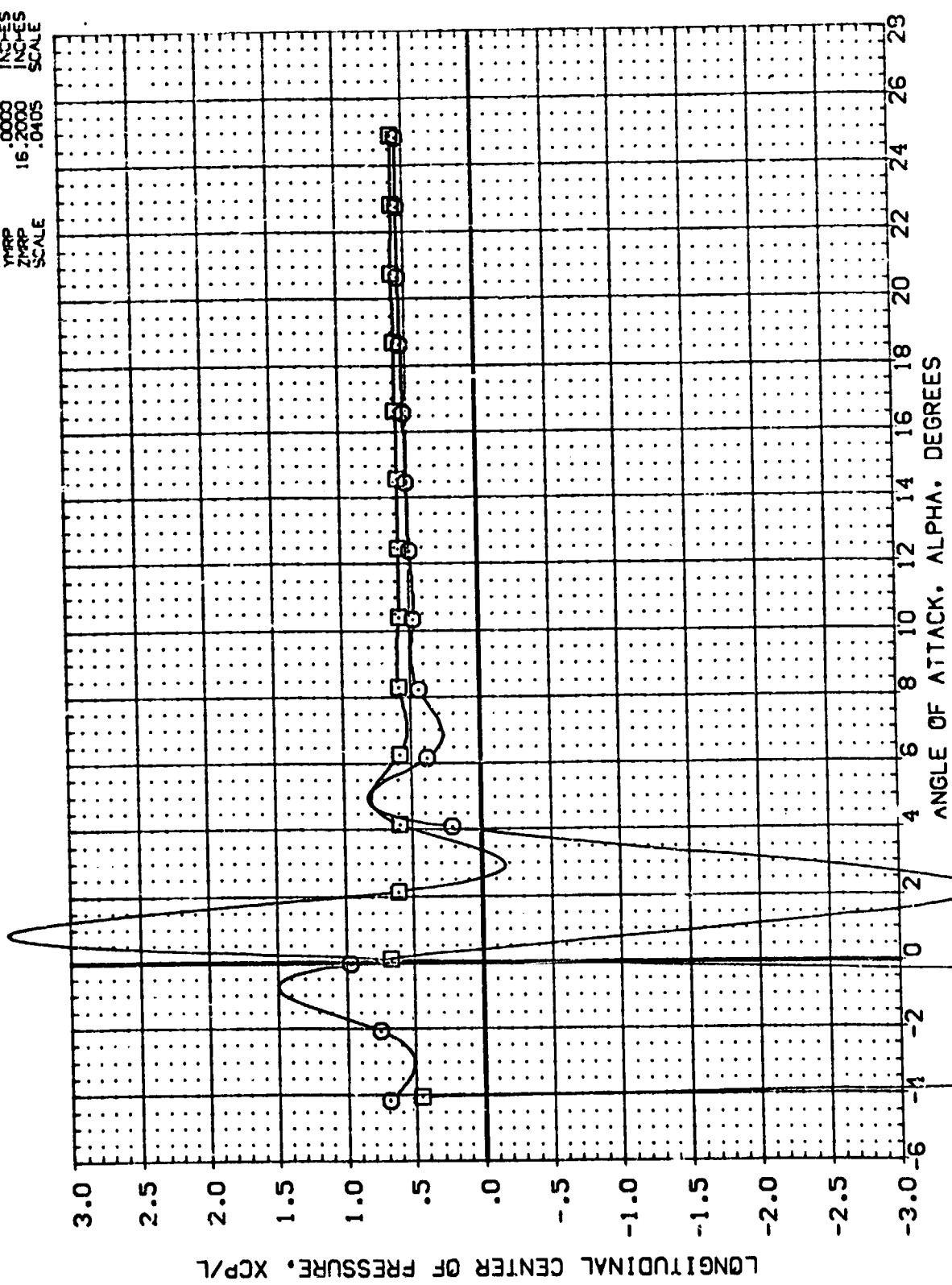


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		SO. FT.	
(10P148)	8	0A21	B17C7H17MAF5	SREF	4.4119	INCHES	
(10P150)	8	0A21	B17C7H17MAF5	LREF	19.2299	INCHES	
				BREF	37.9359	INCHES	
				XMRP	43.5974	INCHES	
				YMRP	.0000	INCHES	
				ZMRP	16.2000	INCHES	
				SCALE	.0405	SCALE	

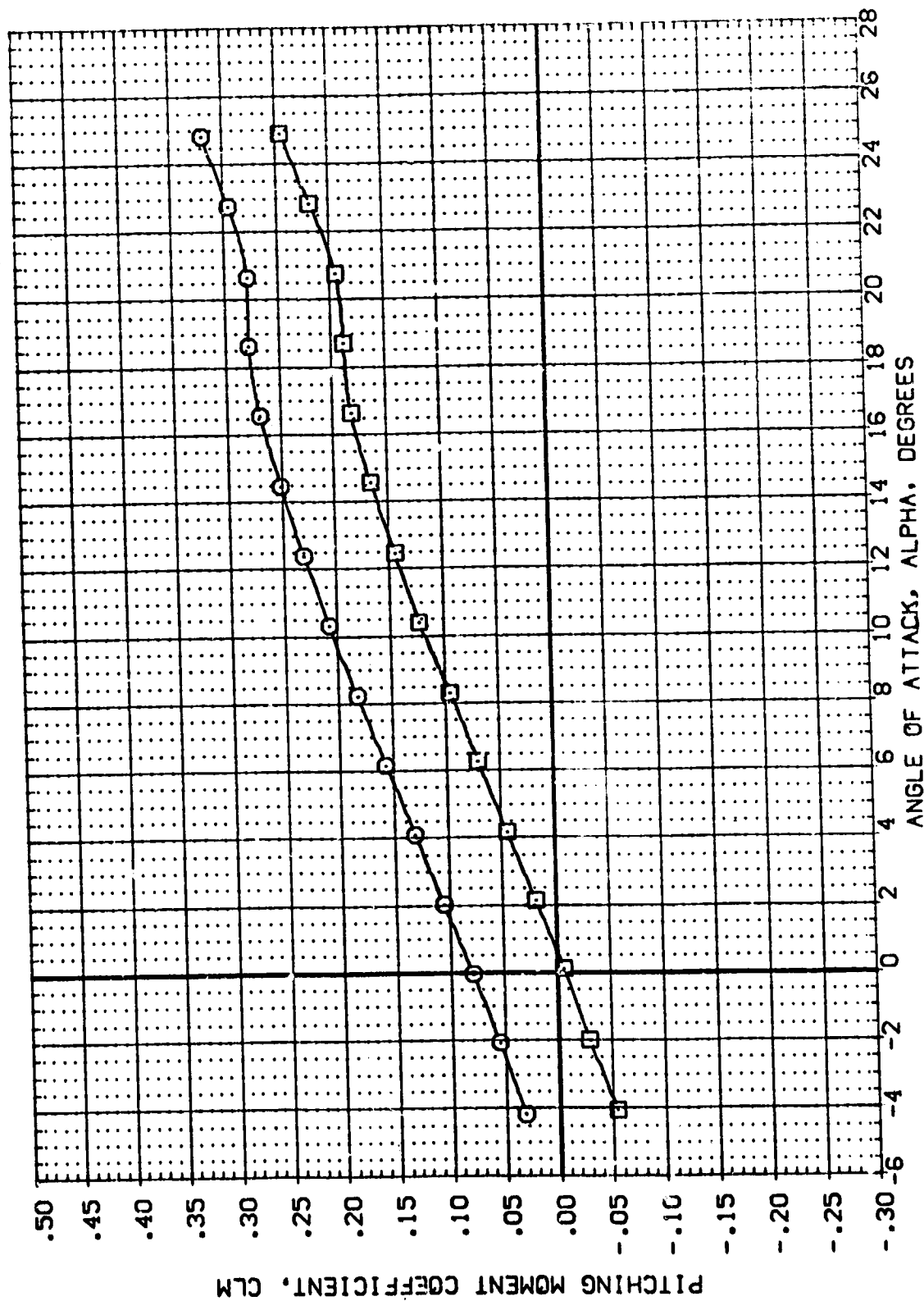


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

MACH = .16

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (009150) O 0A21 B17C7H17M4F5 V10TEZ3V7R6X9

MAXELE 10.000 DELELE 10.000 BOFLAP 55.000

REFERENCE INFORMATION  
 SPREF 4.4119 50. FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

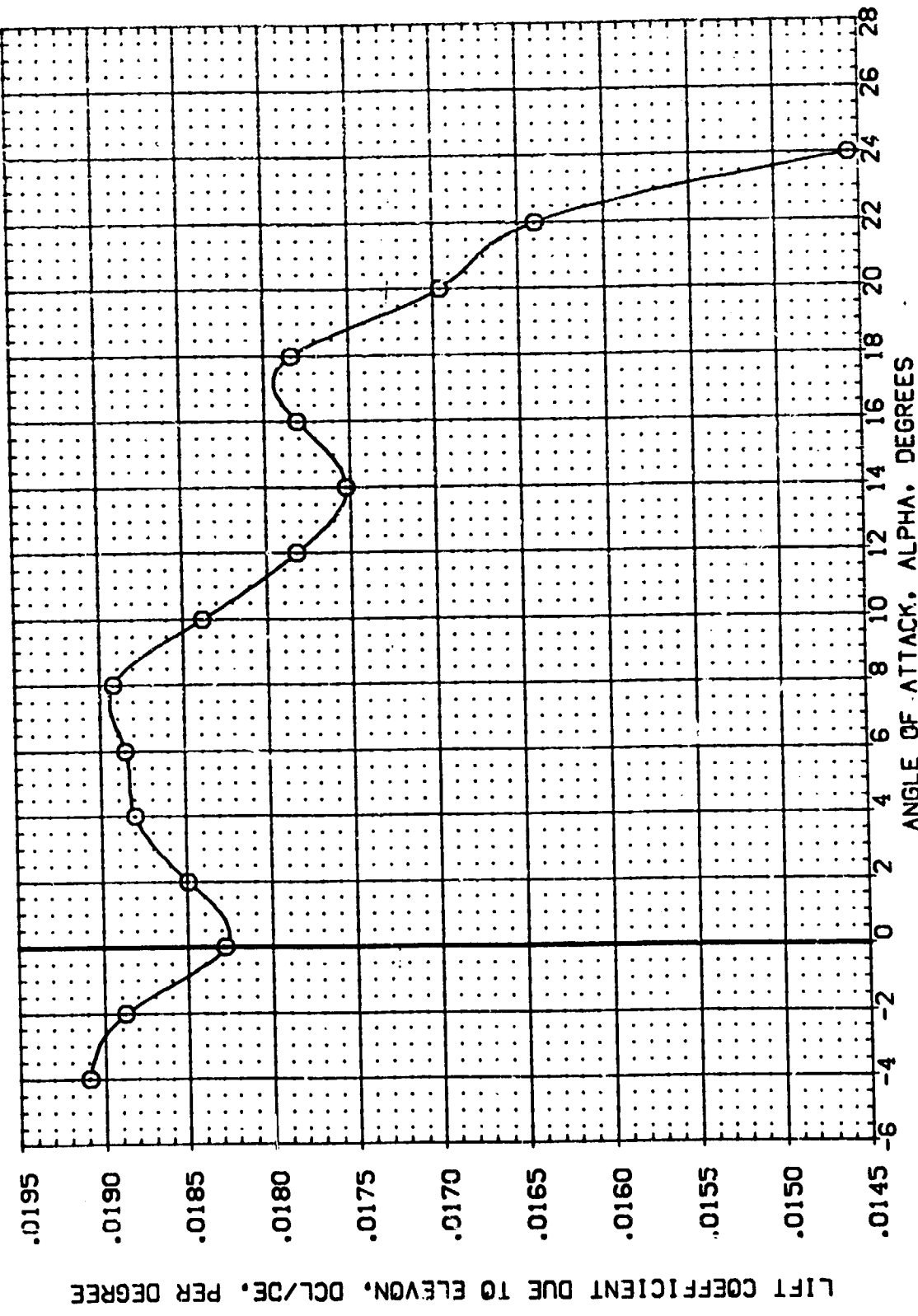


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16



DATA SET SYMBOL: 0 0A21 817C7H17M1FS V107E23V7R6X9  
(OOP:50)

REFERENCE INFORMATION  
SREF: 4.4119 50.111  
LREF: 19.7259 INCHES  
BREF: 37.9558 INCHES  
XMR: 43.5574 INCHES  
YMR: .0000 INCHES  
ZMR: 16.2000 INCHES  
SCALE: .0405

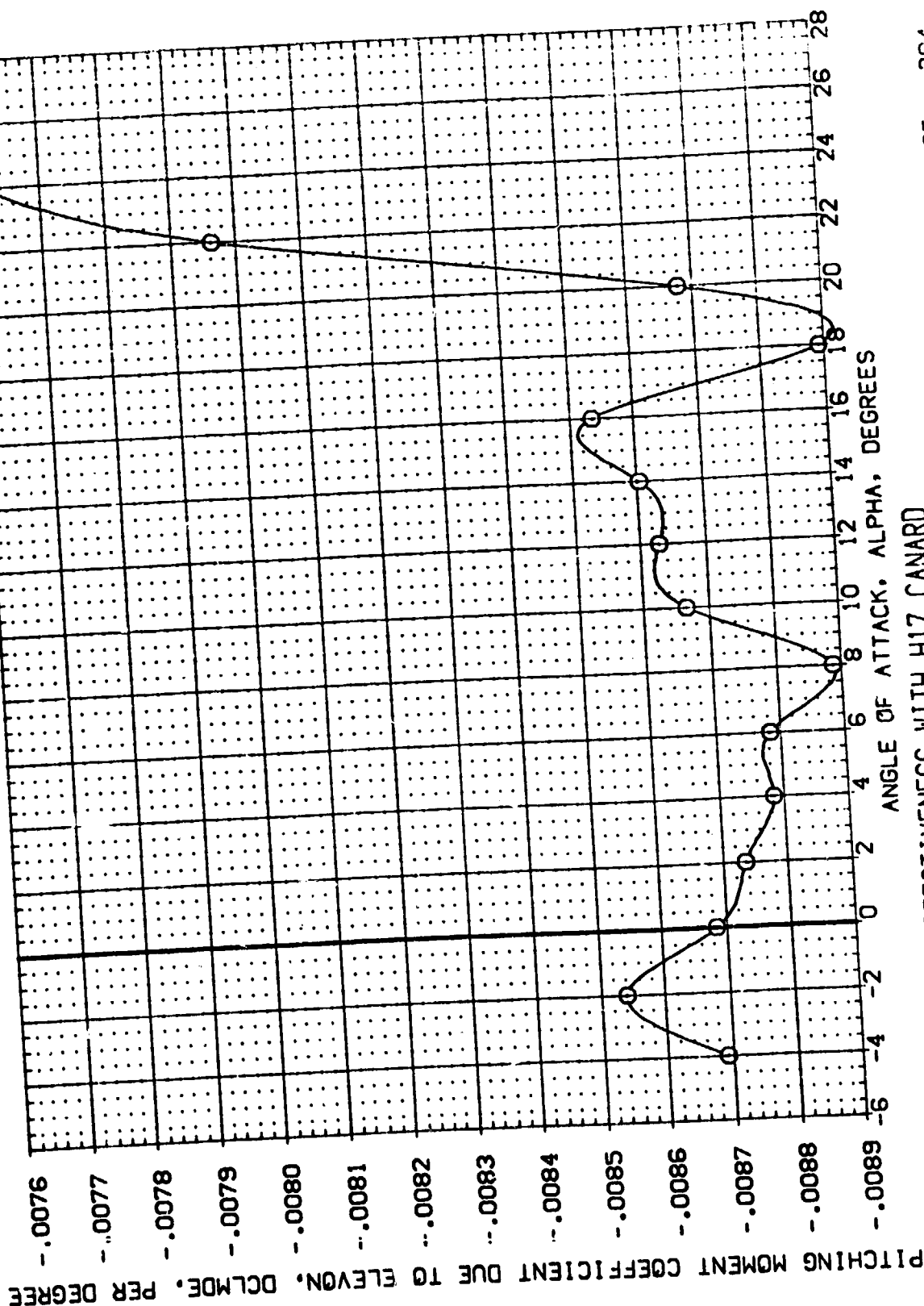


FIGURE 31 ELEVON EFFECTIVENESS WITH H17 CANARD

(A)MACH = .16

DATA SET SYMBOL  
(10P147)  
(10P151)

CONFIGURATION DESCRIPTION  
0A21 B17C7H18H4F5 V107E23V7R6X9  
0A21 B17C7H18H4F5 V107E23V7R6X9

ELEVON  
.000  
10.000

AILERON  
.000  
.000

BD FLAP  
-18.000  
-18.000

SPOILER  
55.000  
55.000

REFERENCE INFORMATION  
SREF 4.1119 SQ.FT.  
LREF 19.2799 INCHES  
BREF 37.9359 INCHES  
XTRP 43.5974 INCHES  
YTRP .0000 INCHES  
ZTRP 16.2000 INCHES  
SCALE .0405

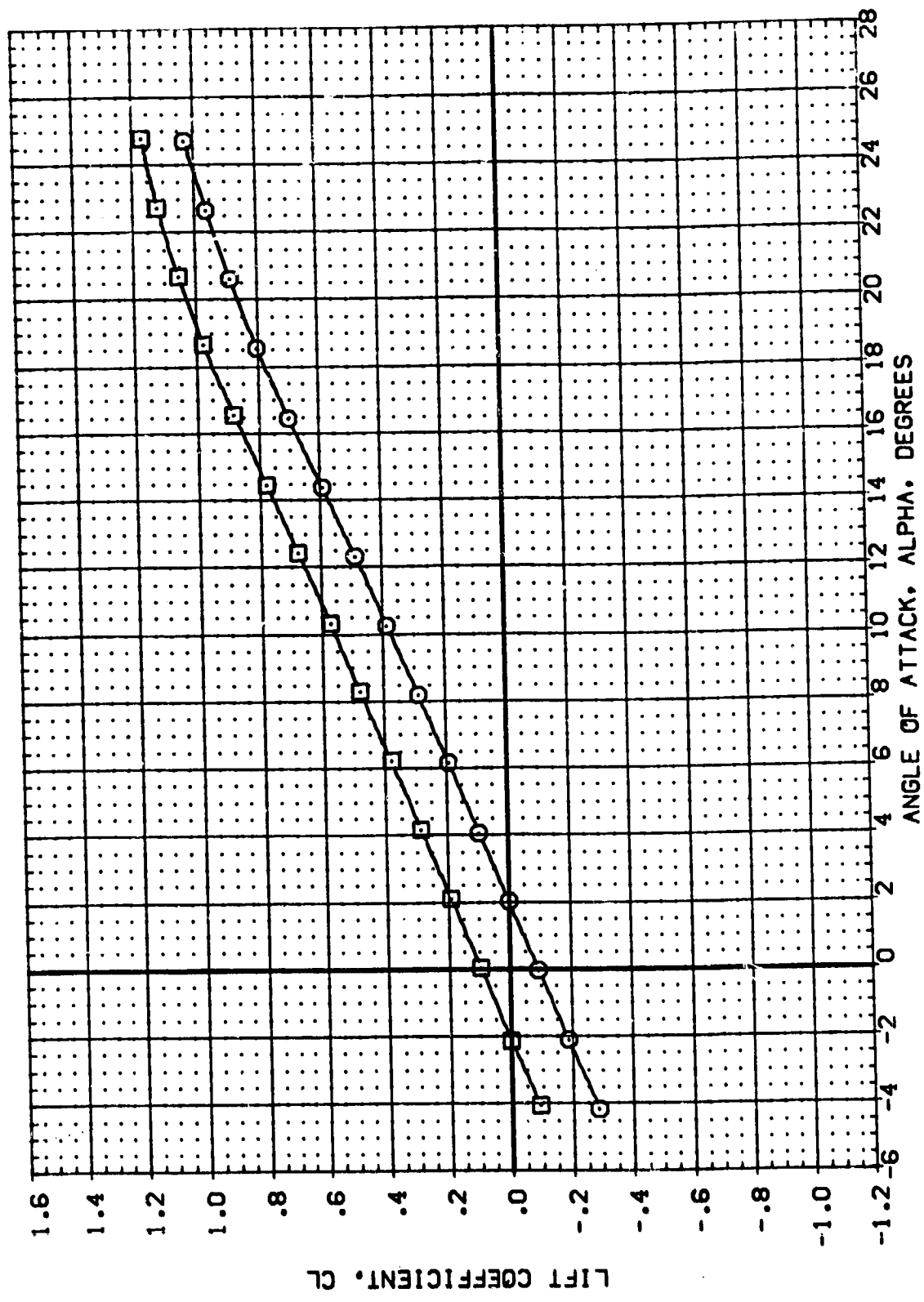


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (IDP147)    □    0A21    B17C7H184FS    V107E23V7R6X9  
 (IDP151)    □    0A21    B17C7H184FS    V107E23V7R6X9

ELEVON    AILRON    BOFLA<sup>3</sup>    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2288    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5874    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    SCALE

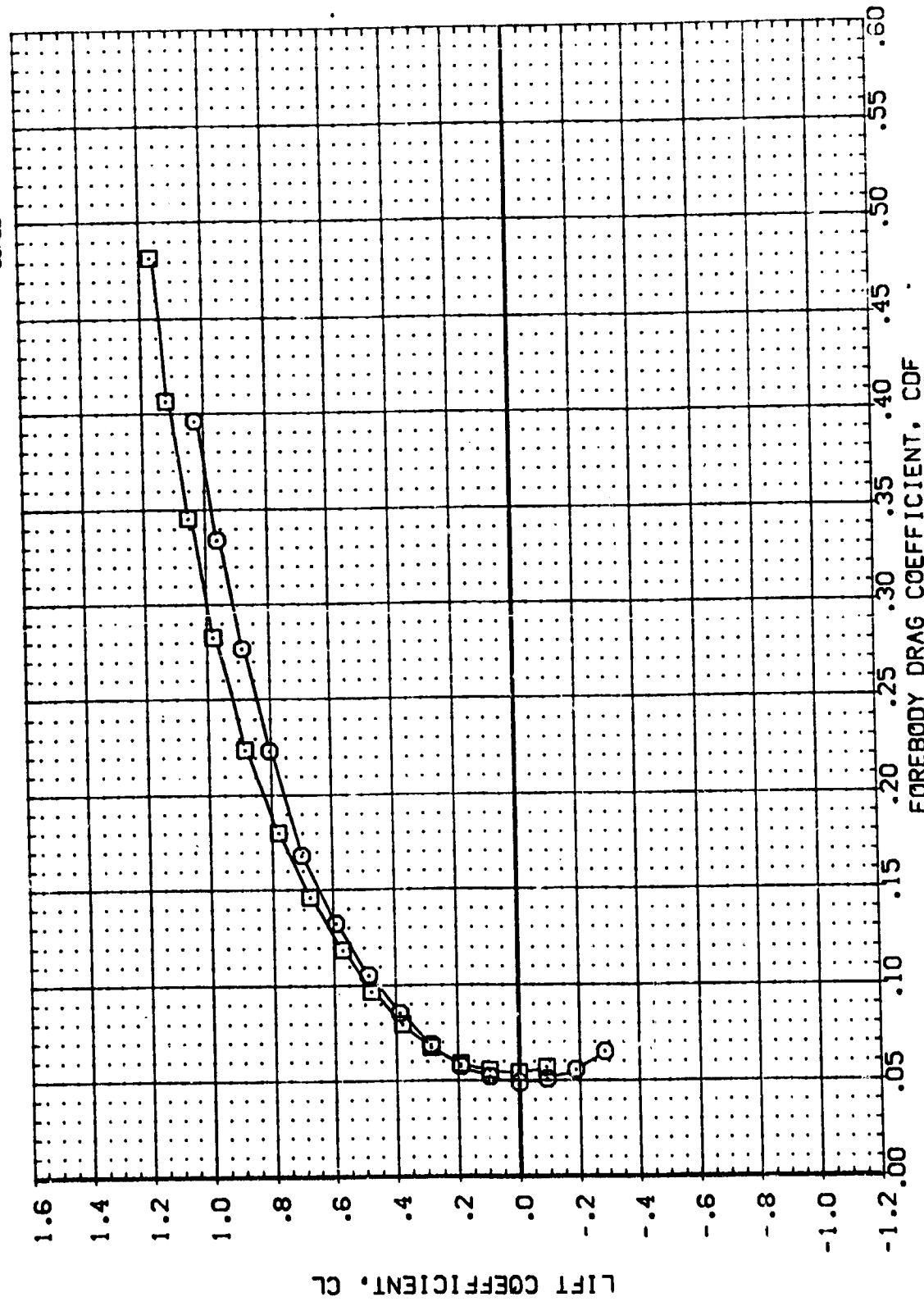


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21 817C7H18M4FS V107E23V7R6X9  
 (IDP147) 0A21 817C7H18M4FS V107E23V7R6X9  
 (IDP151)

ELEVON AILRON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9358 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

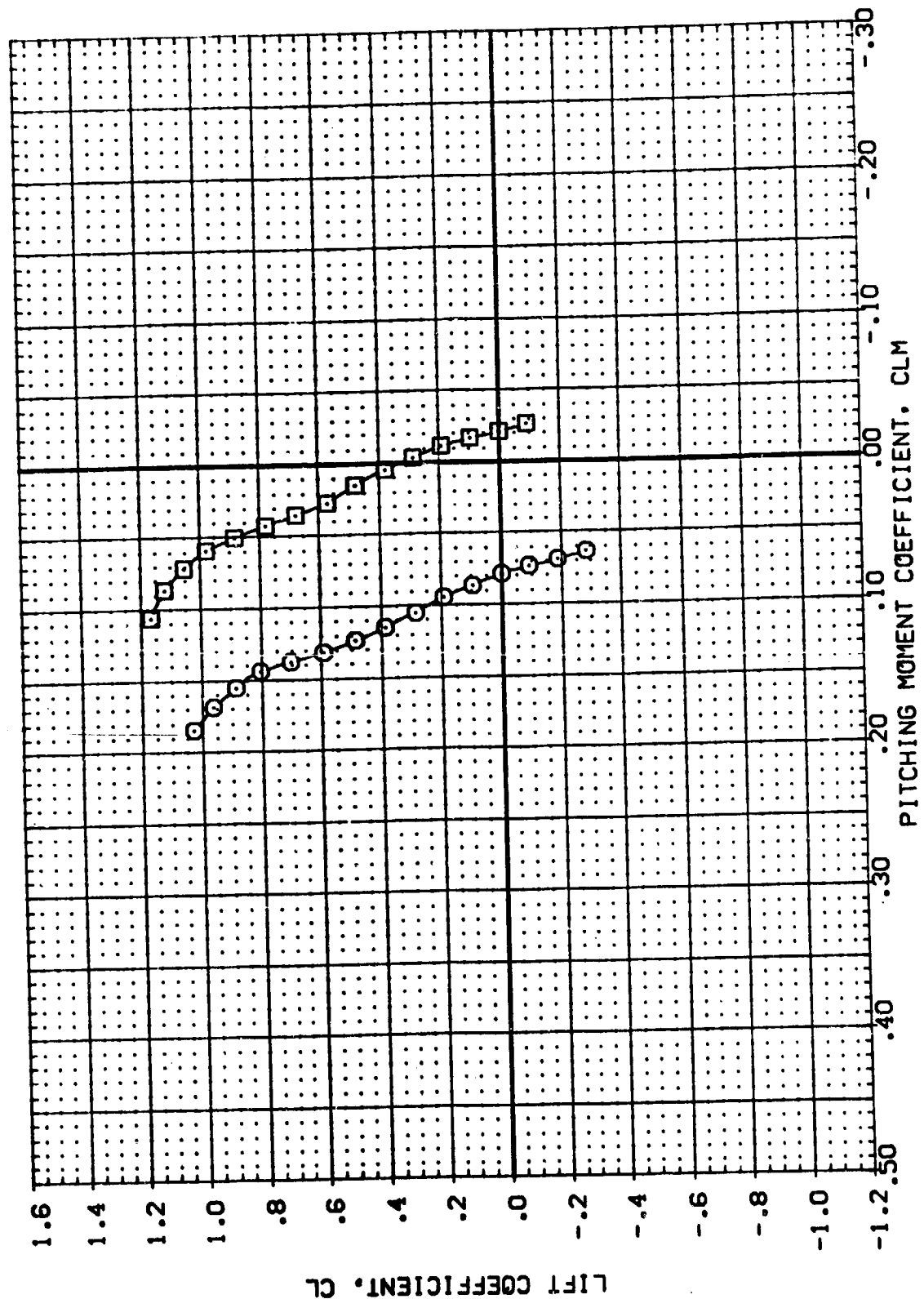


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL  
(1P147) □  
(1P151)

CONFIGURATION DESCRIPTION  
8A21 B17C7H18M4FS V107E23V7R6X9  
8A21 B17C7H18M4FS V107E23V7R6X9

ELEVON AILRON BOFLAP SPOBRK  
.000 .000 -18.000 55.000  
10.000 .000 -18.000 55.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

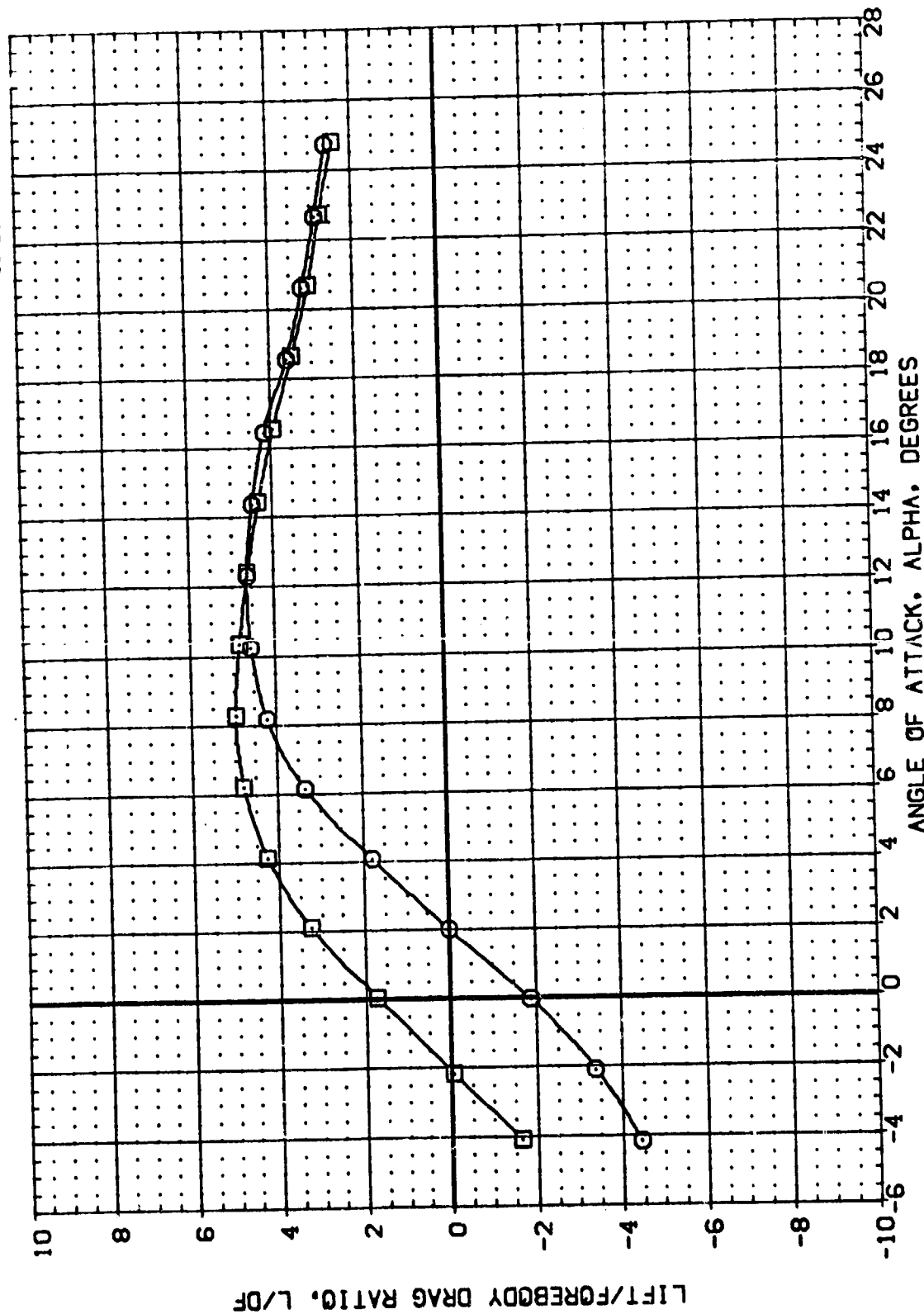


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(DP147)	QAZ1	B17C7H184FS	V107E23V7R6X9	SREF	4.4119
(DP151)	QAZ1	B17C7H184FS	V107E23V7R6X9	LREF	19.2299
				BREF	37.9359
				XMRP	43.5974
				YMRP	.0000
				ZMRP	16.2000
				SCALE	.0405

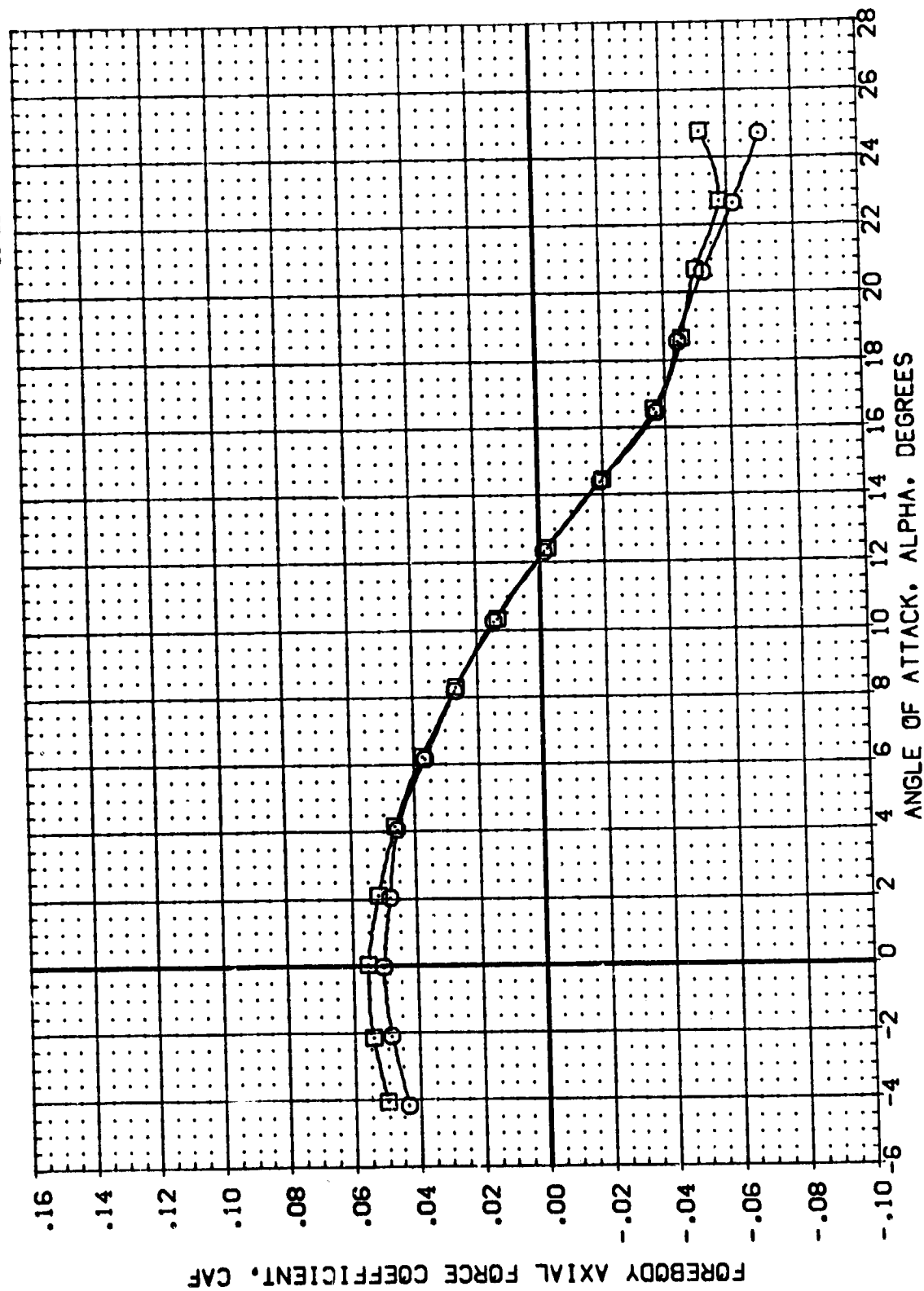


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL: (10P147) (10P151)

CONFIGURATION DESCRIPTION: 817C7H18M4F5 817C7H18M4F5

REFERENCE INFORMATION:

SREF	4.4119	50 FT
LREF	19.2299	INCHES
BREF	37.5359	INCHES
XMRP	43.5974	INCHES
YMRP	16.2000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ELEVON: 10.000

ANLON: .000

BOFLAP: -18.000

SPOBRK: 55.000

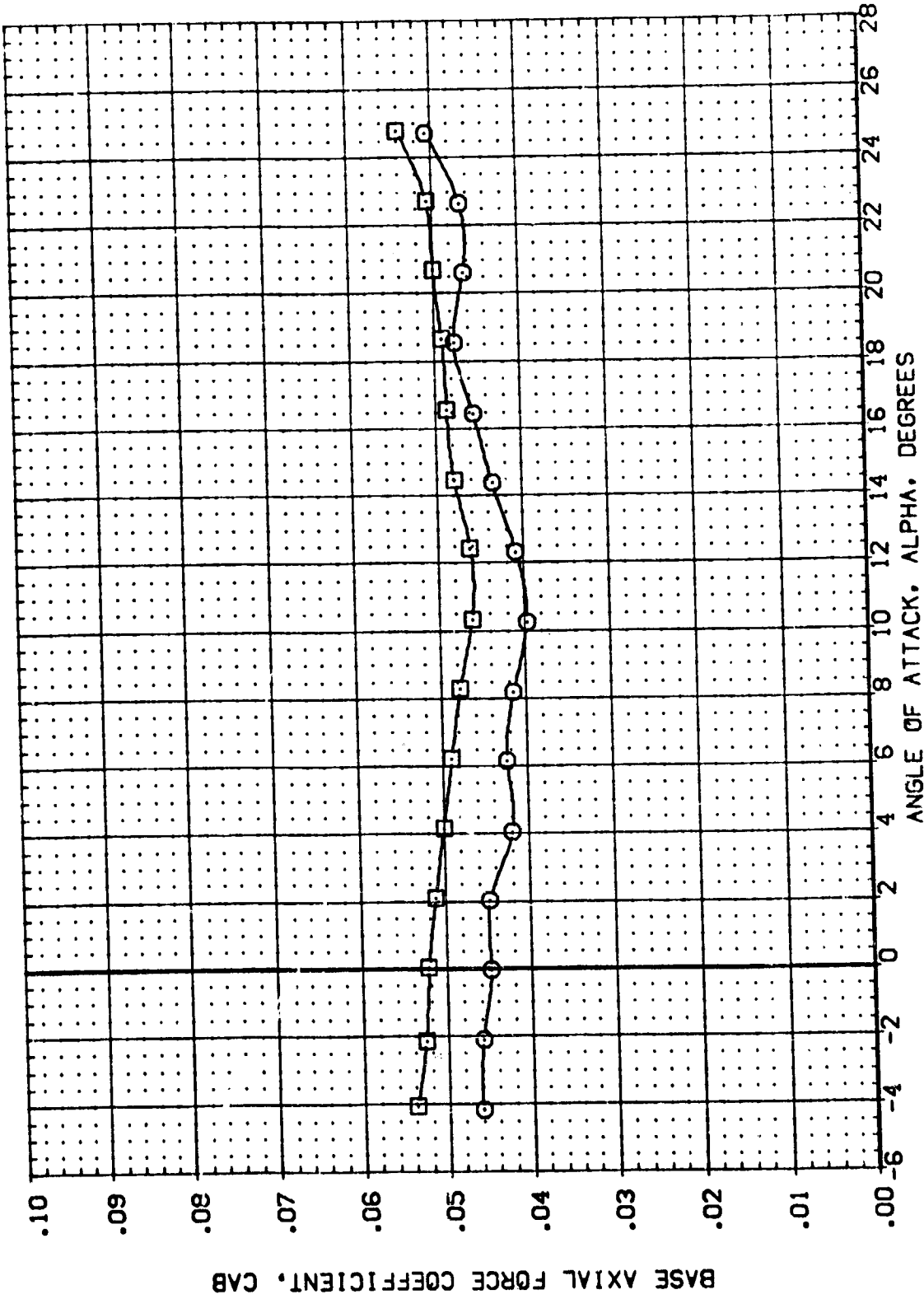


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL: 817C7H184FS V107E23V7R6X9  
 (IDP147) 817C7H184FS V107E23V7R6X9  
 (IDP151) 817C7H184FS V107E23V7R6X9

ELEVON ATTORN BOFLAP SPOBRK  
 .000 .000 55.000  
 10.000 .000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 YMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

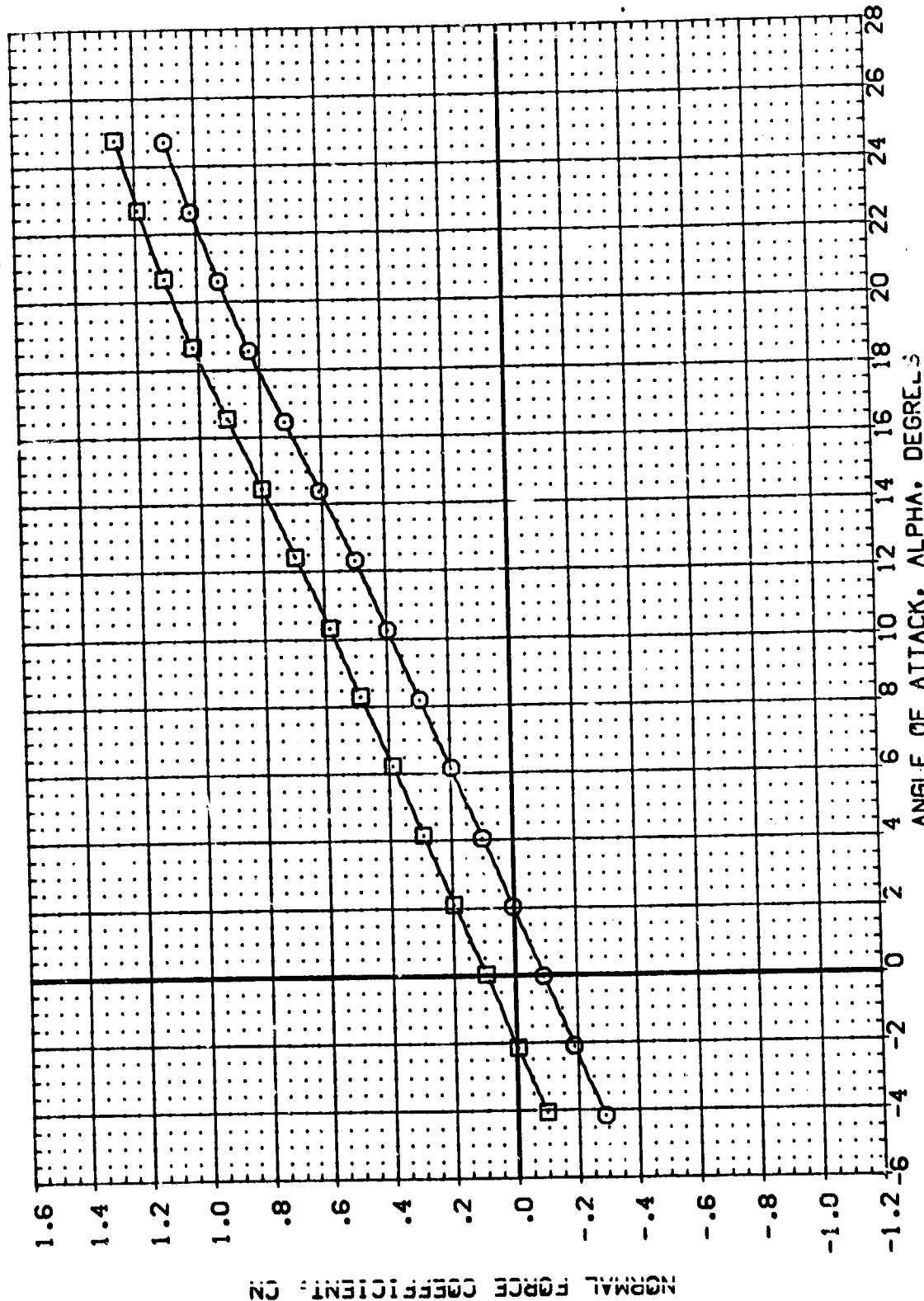


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16



DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (IDP147)    □    0A21    817C7H184FS    VI07E23V7R6X3  
 (IDP151)    □    0A21    817C7H184FS    VI07E23V7R6X3

ELEVON    AILRON    BOFLAP    SPOBRK  
 .000    .000    -18.000    55.000  
 10.000    .000    -18.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    SQ.FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2000    INCHES  
 SCALE    .0405    INCHES

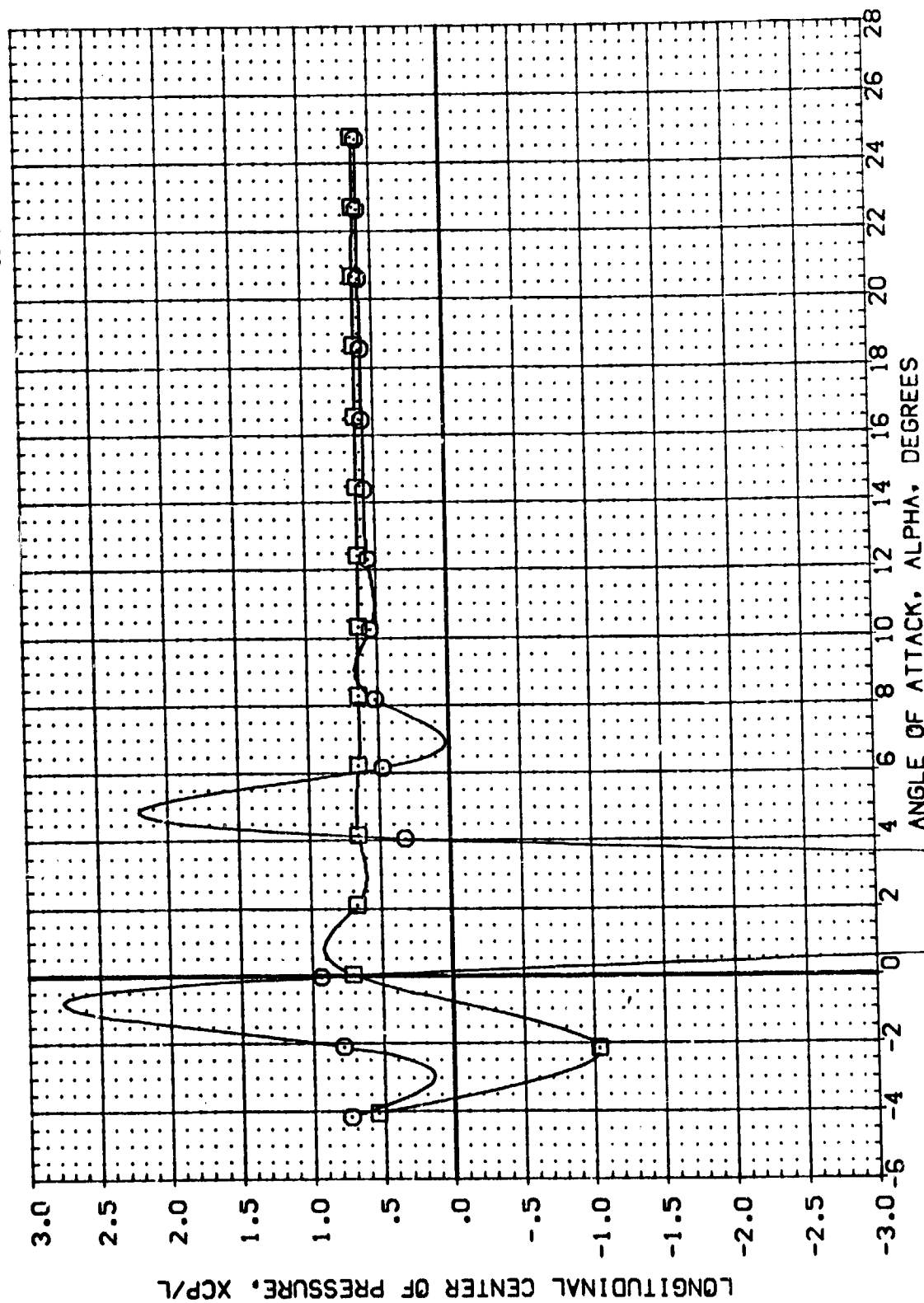


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(DP147)	0A21	B17C7H184FS	V107E23V7R6X9	SREF	4.4119
(IP151)	0A21	B17C7H184FS	V107E23V7R6X9	LREF	19.2299
				BREF	37.9359
				YMRP	43.5974
				ZMRP	.0000
				SCALE	16.2000
					.0405
					SCALE

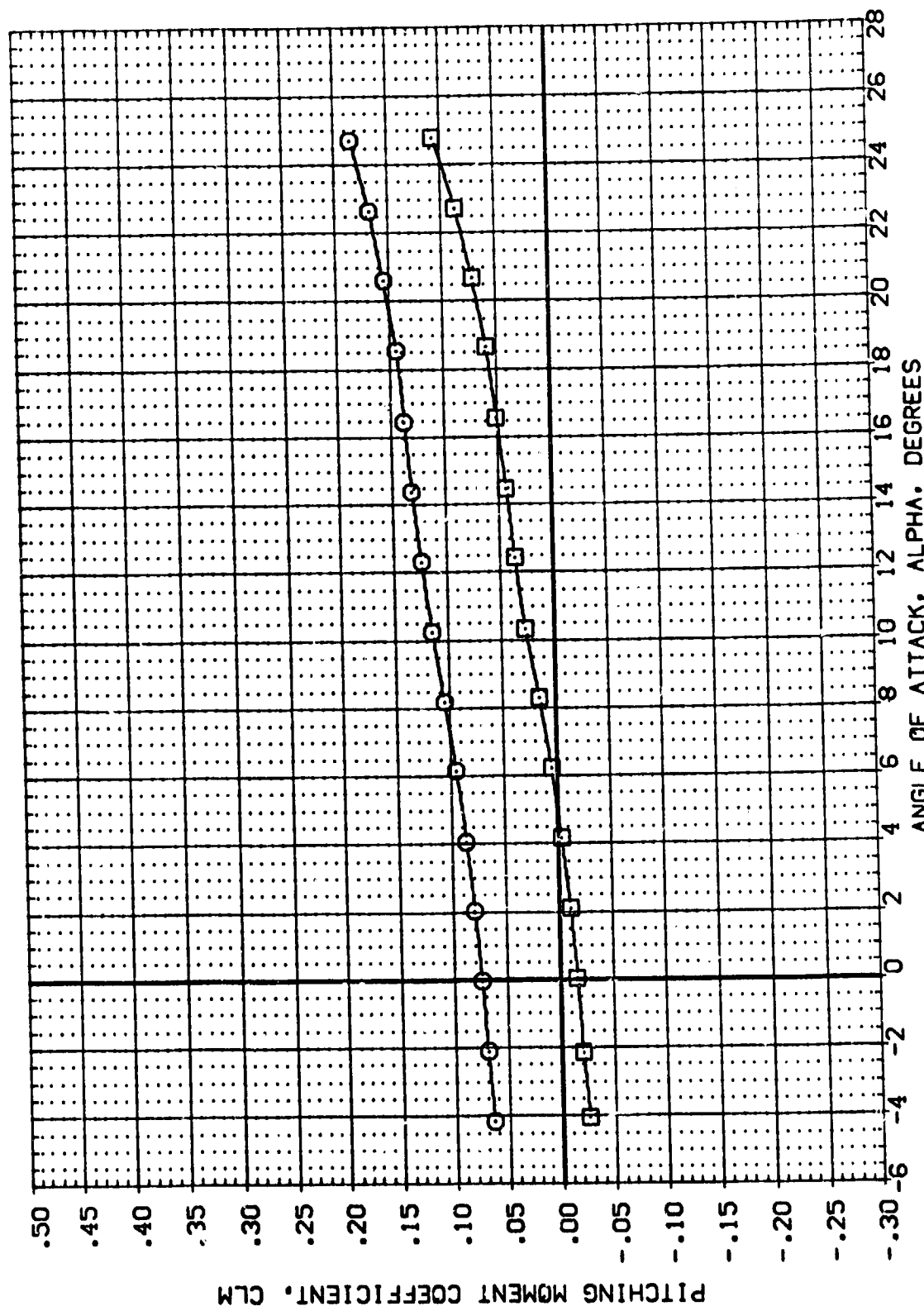


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0013:1  
 CONFIGURATION DESCRIPTION: 0A21 B17C7H18M4F5 V107E23V7R6D3

MAXELE: 10.000  
 DELELE: 10.000  
 BOFLAP: -18.000  
 SPDBRK: 55.000

REFERENCE INFORMATION  
 SREF: 4.4119 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: 16.2000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

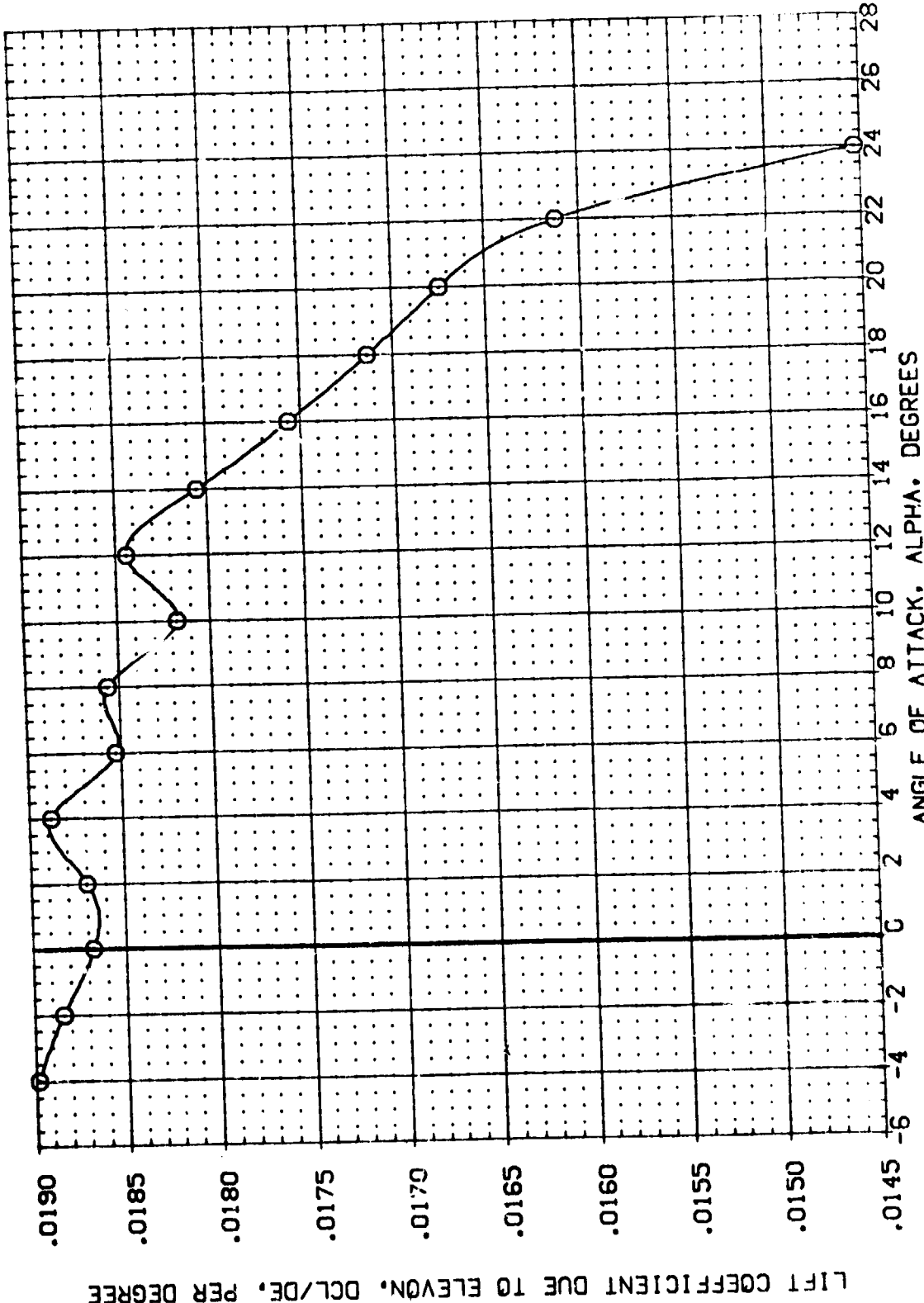


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL (00P151)  $\bigcirc$  QA21 B17C7H18H4FS V107L23V7R6X9

CONFIGURATION DESCRIPTION

REFERENCE INFORMATION

SREF	4.4119	SO.FT
LREF	19.2299	INCHES
BREF	37.5359	INCHES
XPRP	43.5974	INCHES
YPRP	.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	SCALE

MAVELE 10.000

DELE 10.000

BOFLAP -18.000

SPOBRK 55.000

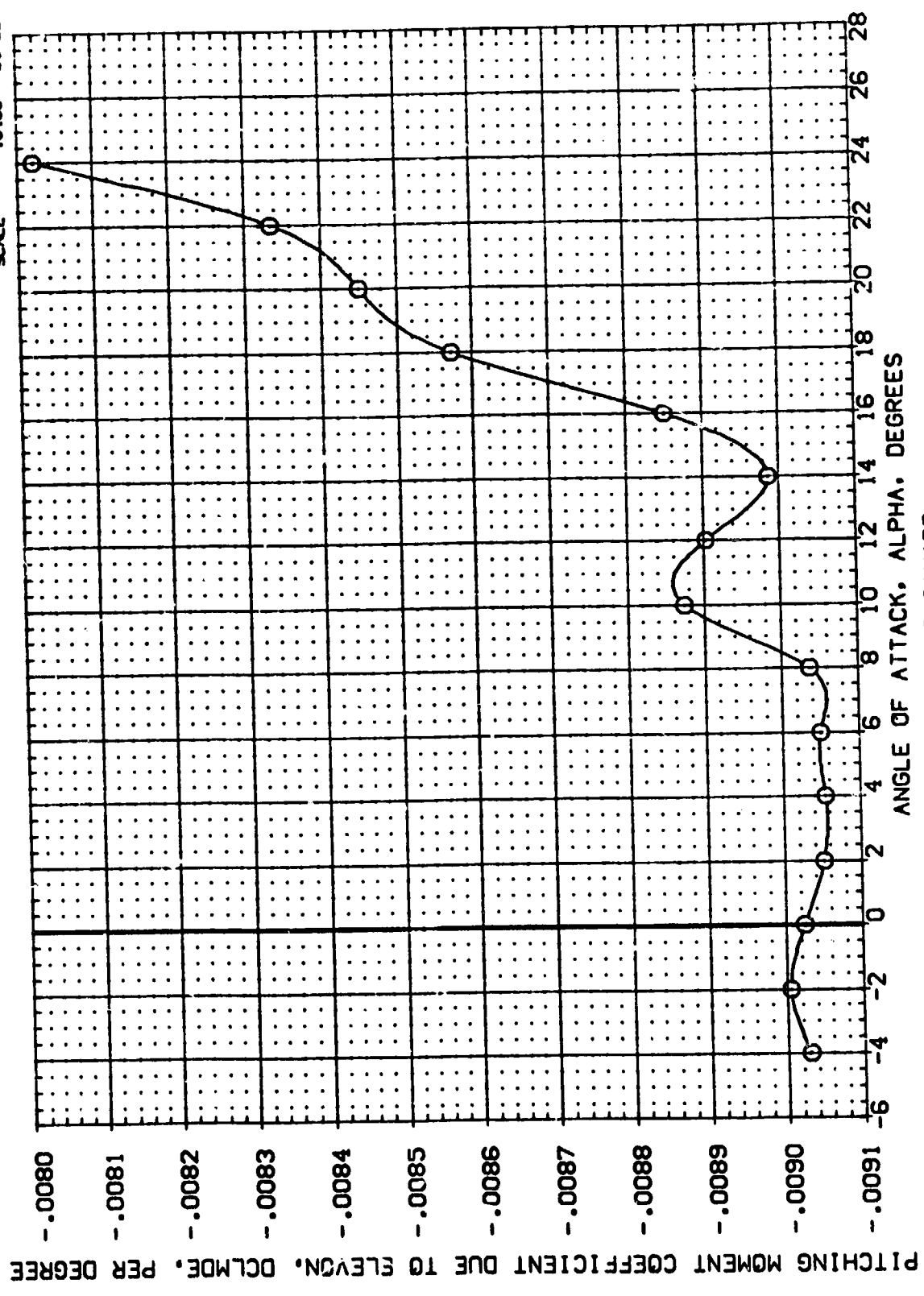


FIGURE 32 ELEVON EFFECTIVENESS WITH H18 CANARD

(A)MACH = .16

DATA SET SYMBOL: 0A21 B17C7H1944FS V107E23V786 X3  
 (IDP164) 0A21 B17C7H1944FS V107E23V786 X3  
 (IDP167)

ELEVON AILRON BDFLAP SPOBRK  
 10.000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50. FT.  
 LREF 19.2259 INCHES  
 BREF 37.9359 INCHES  
 YPRP 43.5974 INCHES  
 ZPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

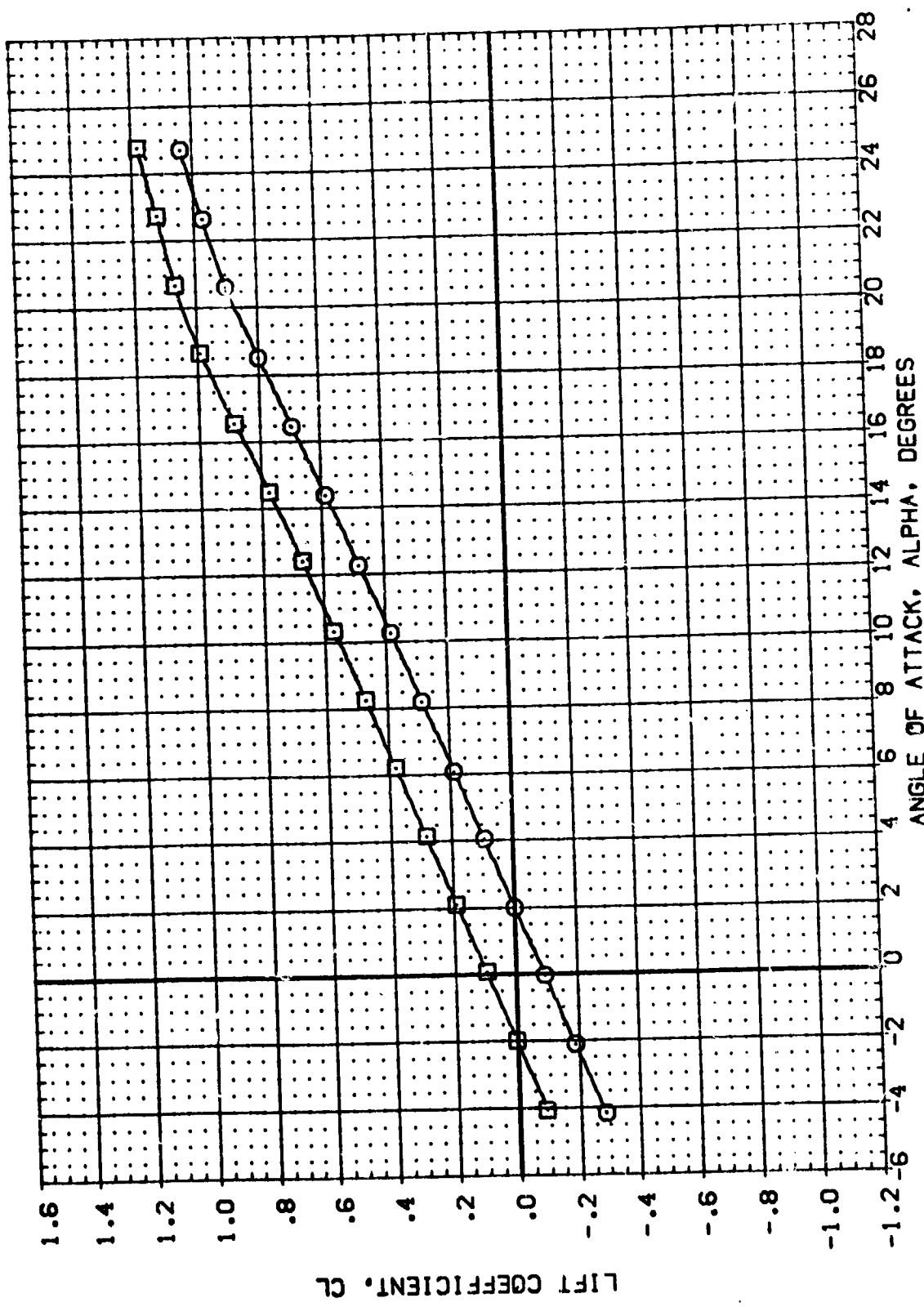


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(A)MACH = .16

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOILER	REFERENCE INFORMATION	
{IDP164}	DA2: B17C7H19M4F5 V107E23V7R6 X9	.000	.000	-18.000	55.000	SREF	4.4119 SQ.FT.
{IDP167}	DA2: B17C7H19M4F5 V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF	19.2259 INCHES
						BREF	37.5359 INCHES
						XMRP	43.5974 INCHES
						YMRP	.0000 INCHES
						ZMRP	16.2000 INCHES
						SCALE	.0405 INCHES

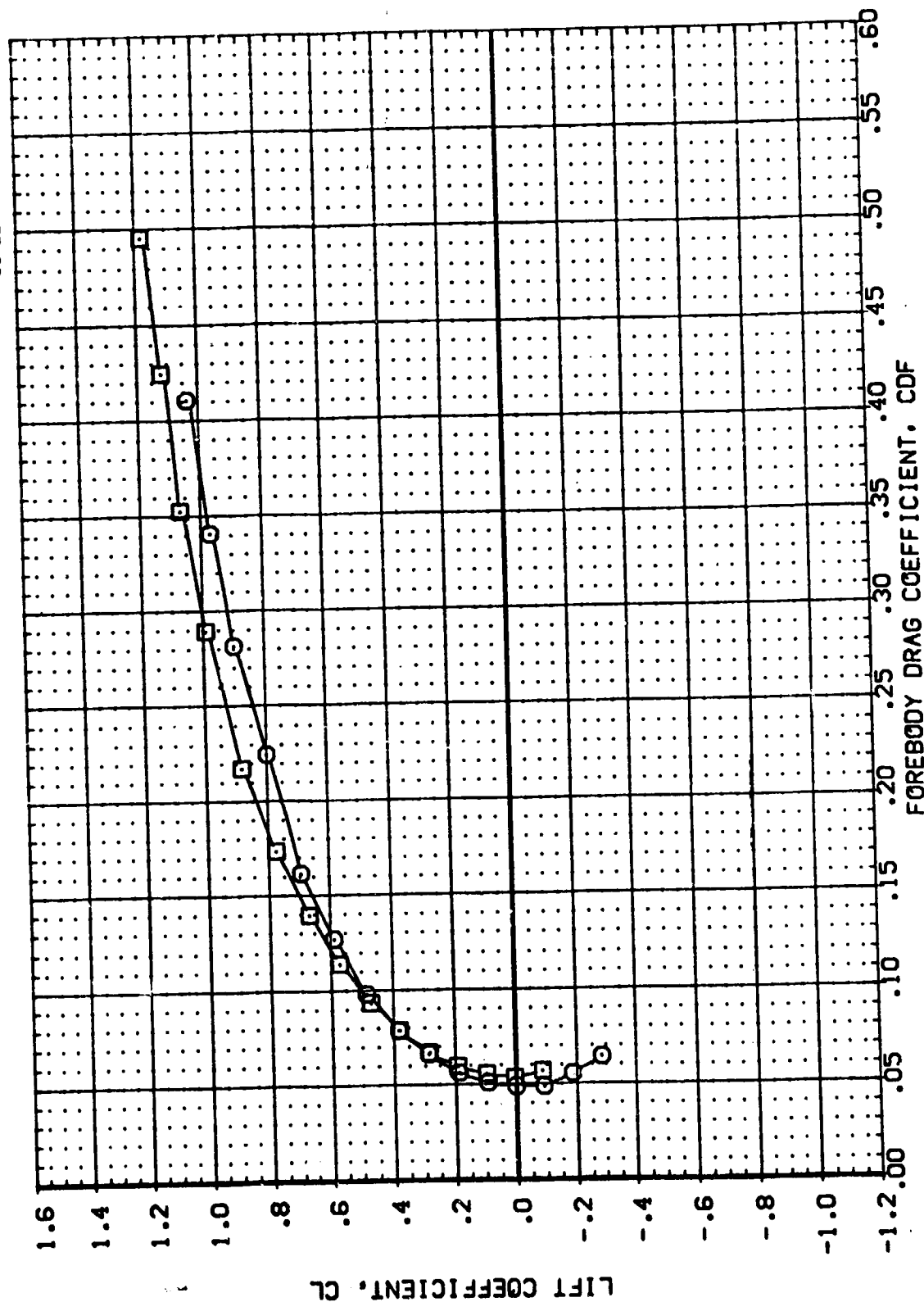


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

CAJMACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILERON		BOFLAP		SPDBRK		REFERENCE INFORMATION	
(IDP184)	8-21	817C7H15H4F5	V107E23V7H6	X9	.000	.000	-18.000	95.000	SREF	4.4119	SO.FT.	INC-ES	
(IDP167)	8-21	817C7H15H4F5	V107E23V7H6	X9	10.000	.000	-18.000	95.000	LREF	19.7288	INC-ES	INC-ES	
									BREF	37.5359	INC-ES	INC-ES	
									XTRP	43.5974	INC-ES	INC-ES	
									YTRP	.0000	INC-ES	INC-ES	
									ZTRP	16.2000	INC-ES	INC-ES	
									SCALE	.0405	SCALE		

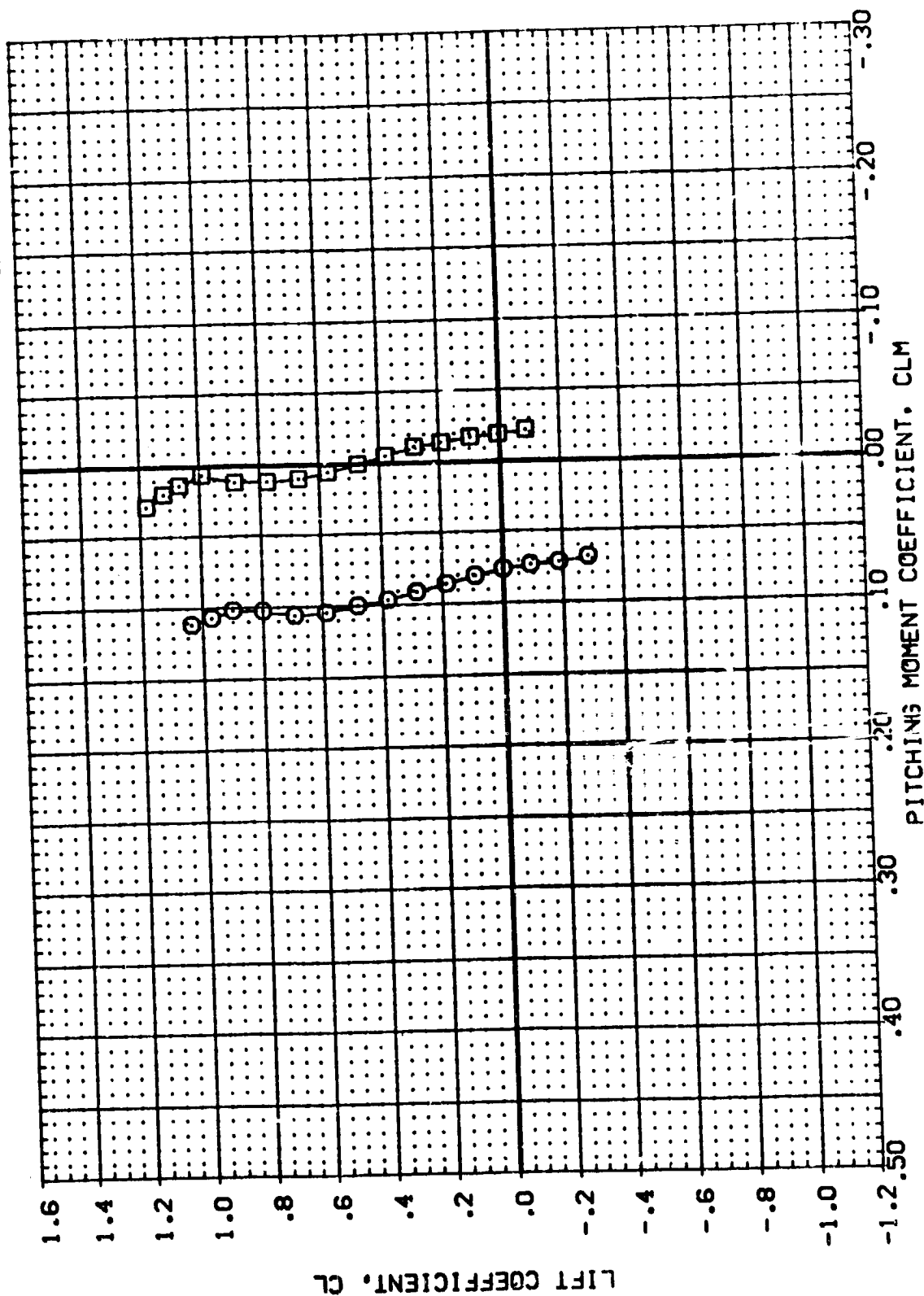


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(M)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(IDP184)	Q21	817C7H19M4F5	V1U7E23V7R6	SREF	4.4119
(IDP167)	Q21	817C7H19M4F5	V1U7E23V7R6	LREF	19.2299
				BREF	37.9359
				XMRP	43.5974
				YMRP	0.0000
				ZMRP	16.2000
				SCALE	.0400
					SCALE

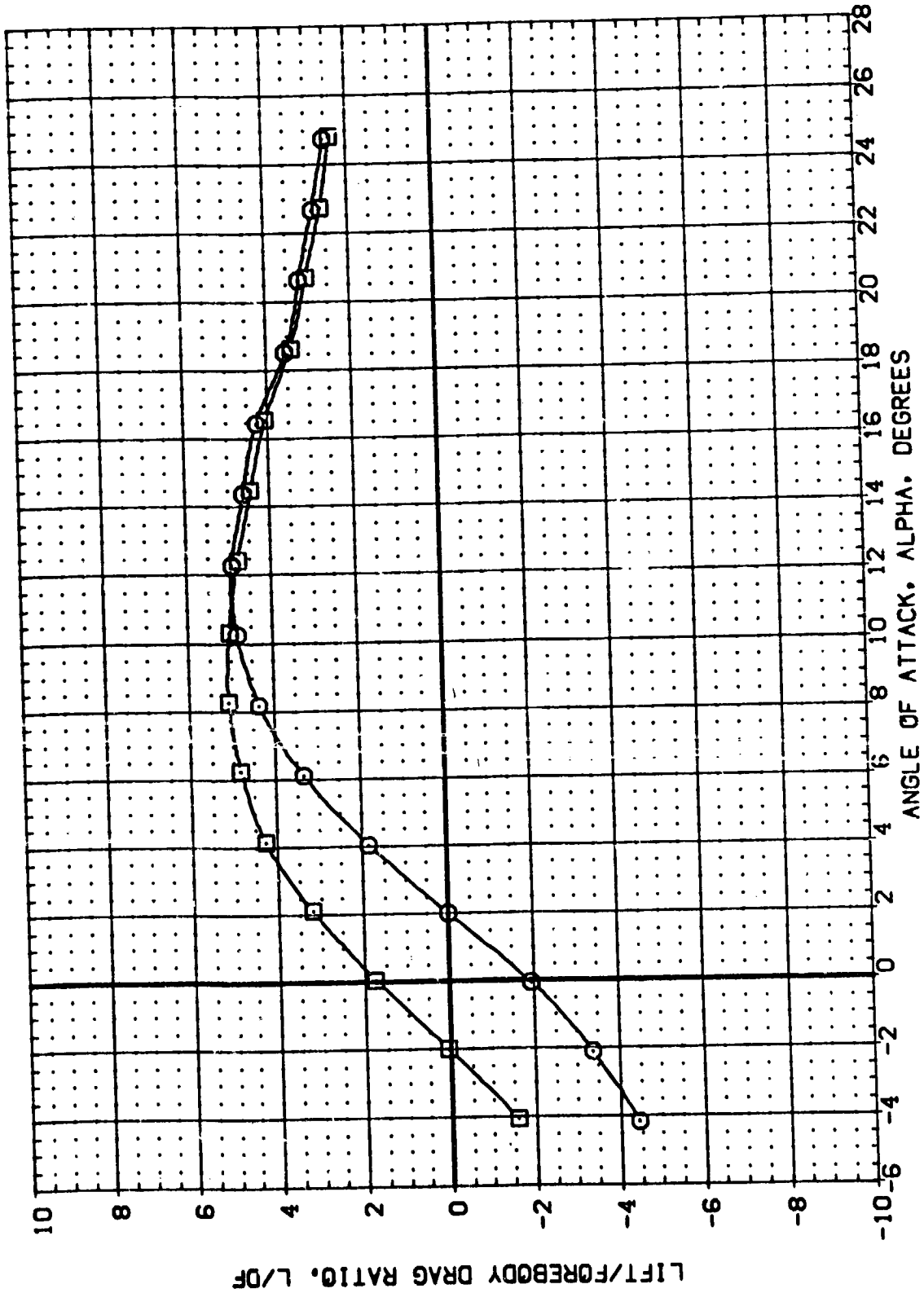


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(A)MACH = .16





DATA SET SYMBOL  
(10P164)  
(10P167)

CONFIGURATION DESCRIPTION  
0A21 817C7H194FS  
0A21 817C7H194FS

ELEVON  
.000  
10.000

AILURON  
.000  
.000

BOFLAP  
-18.000  
-18.000

SPOBRK  
55.000  
55.000

REFERENCE INFORMATION  
SREF 4.4119 50.000 INCHES  
LREF 19.2259 50.000 INCHES  
BREF 37.5359 50.000 INCHES  
XTRP 43.5974 50.000 INCHES  
YTRP 0.000 50.000 INCHES  
ZTRP 16.2000 50.000 INCHES  
SCALE .0105

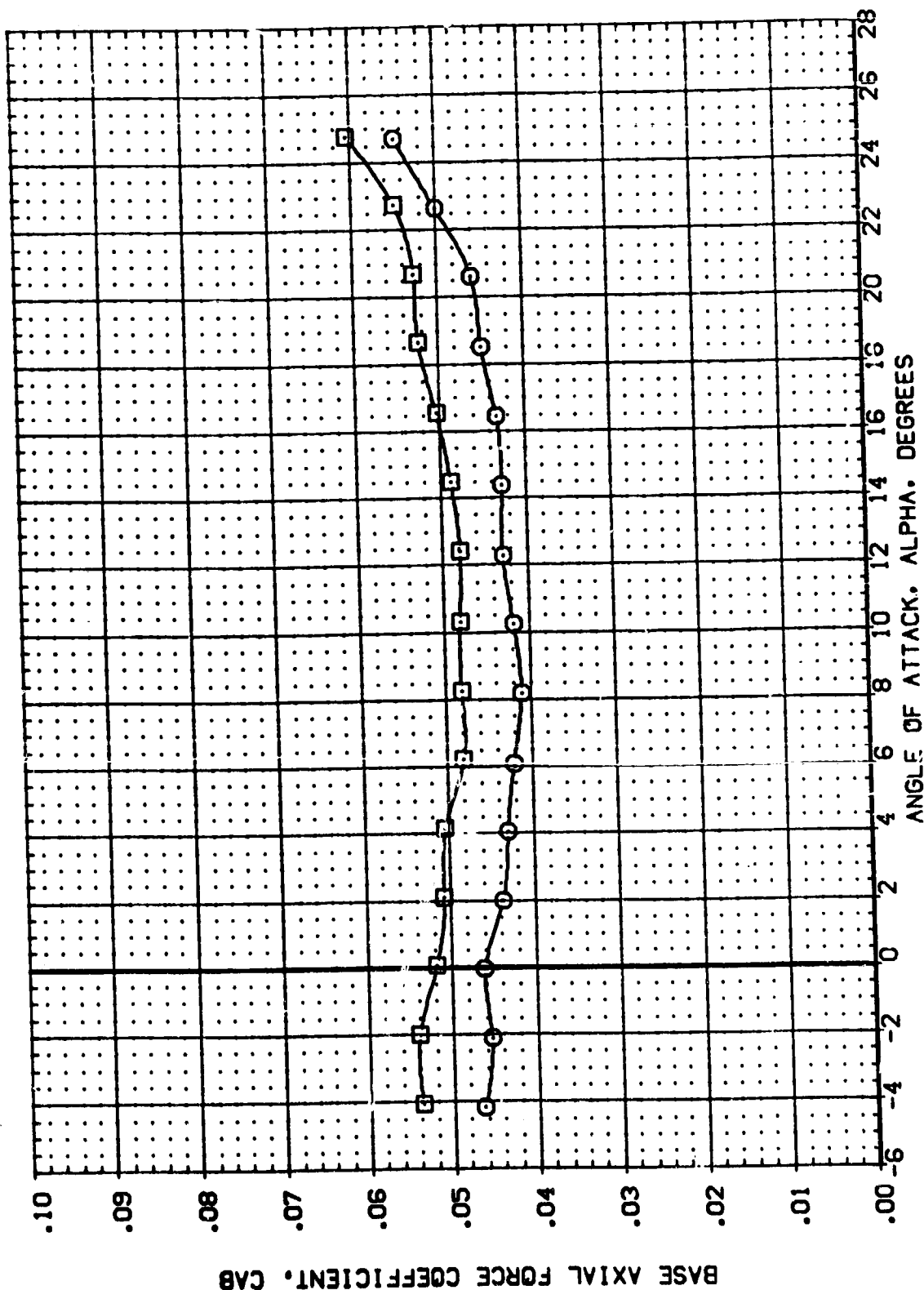


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILDRON		BOFLAP		SPDRBK		REFERENCE INFORMATION	
{DP164}	□	0A21	817C7H15M4F5	V107E23V77R6	X9	.000	.000	-18.000	55.000	SREF	4.4119	50. FT	
{DP167}	○	0A21	817C7H15M4F5	V107E23V77R6	X9	10.000	.000	-18.000	55.000	LREF	19.2299	INCHES	
										BREF	37.9359	INCHES	
										XTRP	43.5974	INCHES	
										YTRP	.0000	INCHES	
										ZTRP	16.2000	INCHES	
										SCALE	.0405	SCALE	

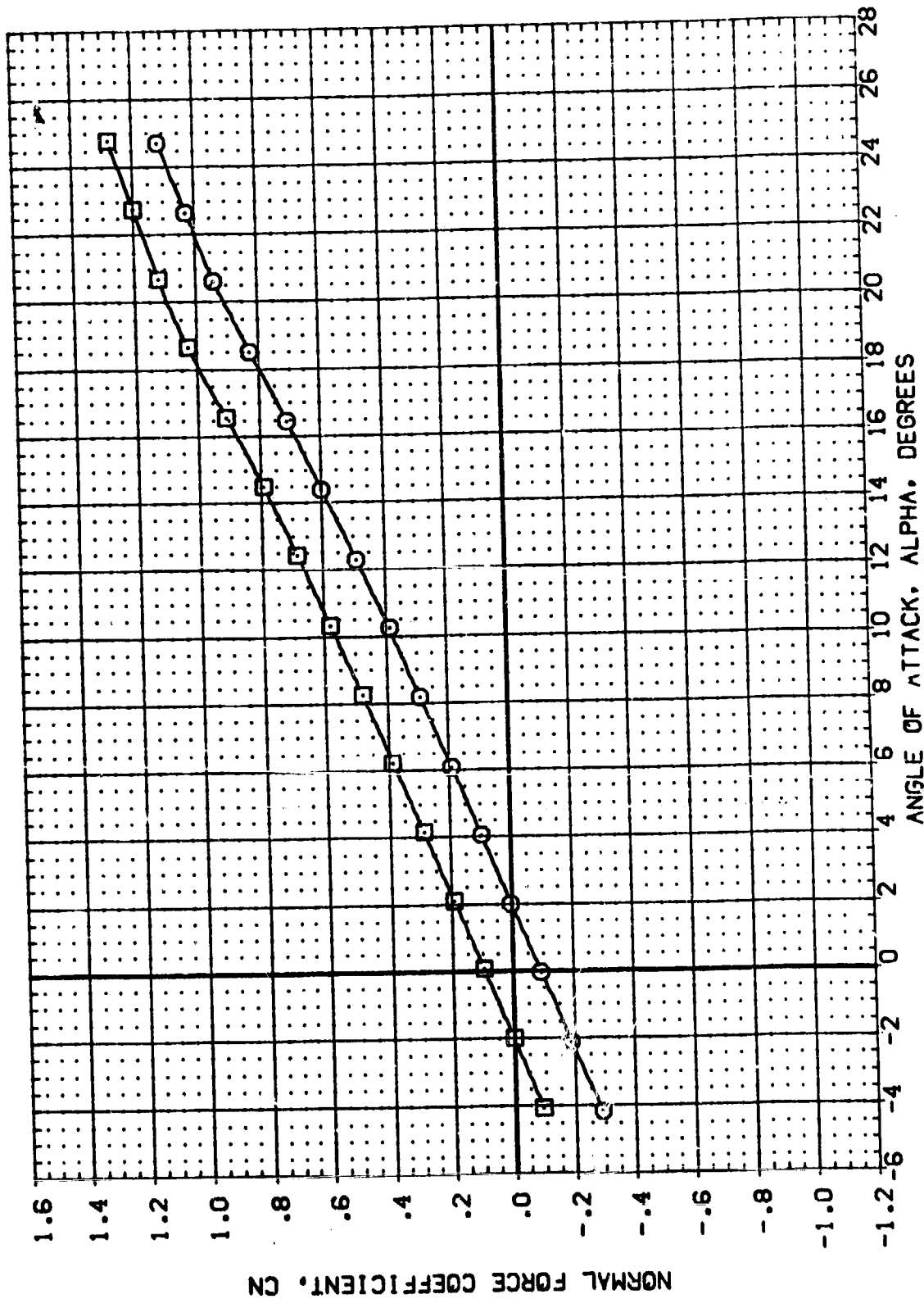


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(A)MACH = .16

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(10P164)	□	0421	B172M194FS	SREF	4.4119
(10P167)	□	0421	B172M194FS	LREF	19.2259
				BREF	37.9359
				XMRP	43.5974
				YMRP	10.000
				ZMRP	16.2000
				SCALE	.0405

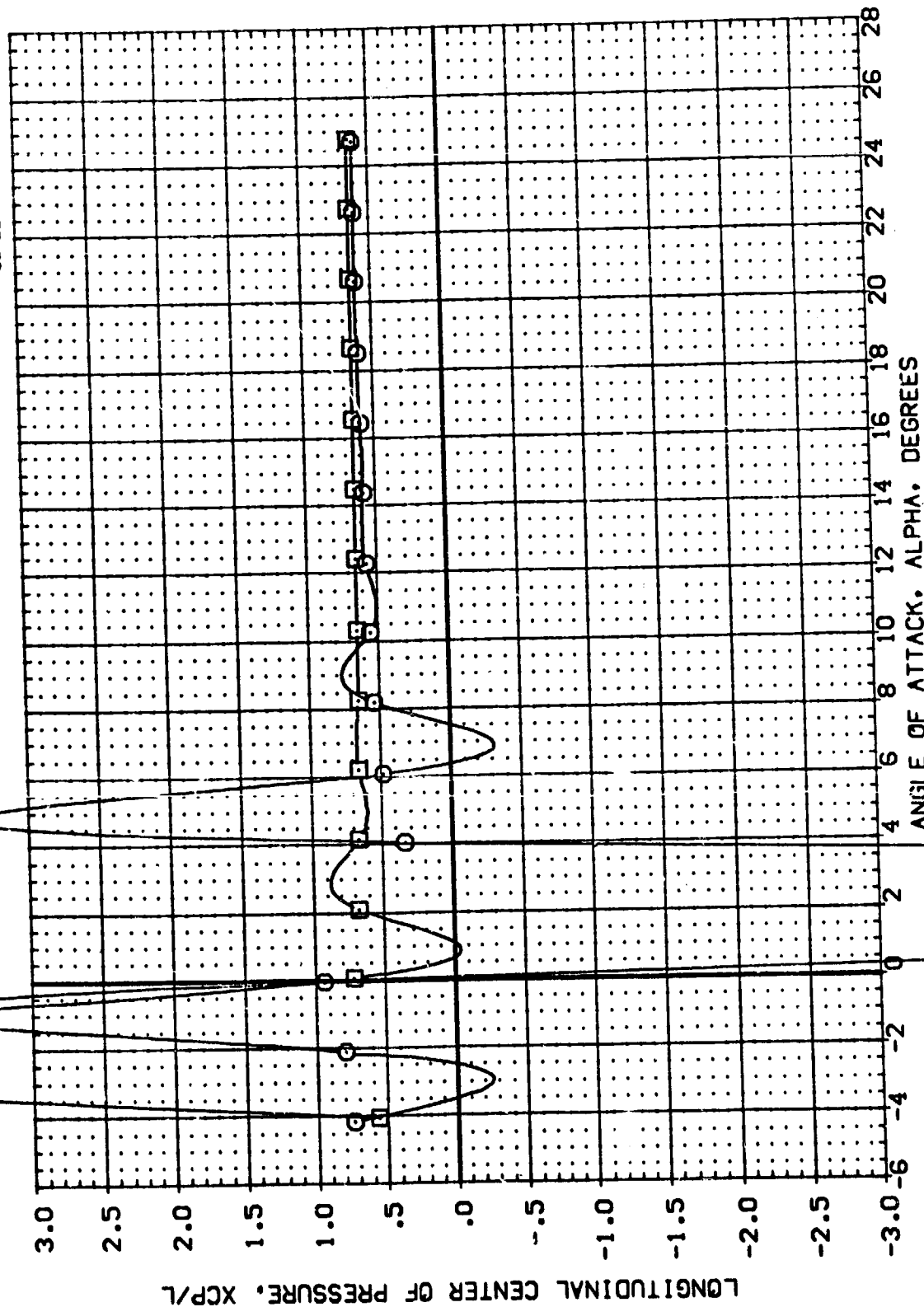


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(M)MACH = .16

DATA SET SYMBOL	CONFIRMATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPODBRK	REFERENCE INFORMATION
(1DP164)	0A21 B17C7H19M4FS V107E23V7R6 X9	.000	.000	-18.000	55.000	SREF 4.4119 SO.FT.
(1DP167)	0A21 B17C7H19M4FS V107E23V7R6 X9	10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
						BREF 37.9359 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

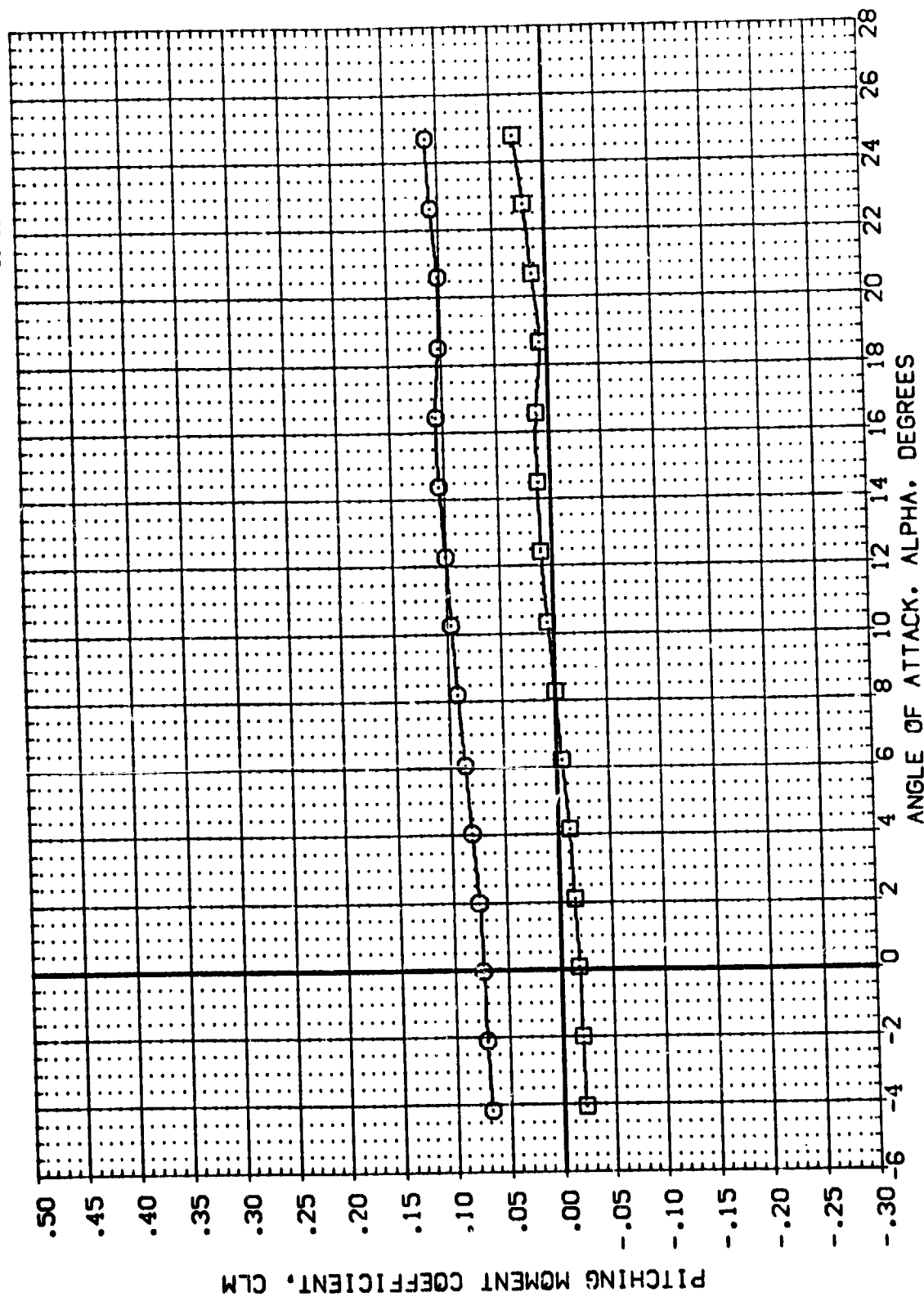


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(A)MACH = .16

DATA SET SYMBOL (00P167) O 0A21 817C7H15M4F5 V107E23V7R6 X9

CONFIGURATION DESCRIPTION  
MIXELE 10.000 DELELE 10.000 BOFLAP 55.000 SPDBRK

REFERENCE INFORMATION  
SQ.FT. 4.4119  
INCHES 19.2299  
INCHES 37.9359  
INCHES 43.5974  
INCHES .0000  
INCHES 16.2000  
SCALE .0405

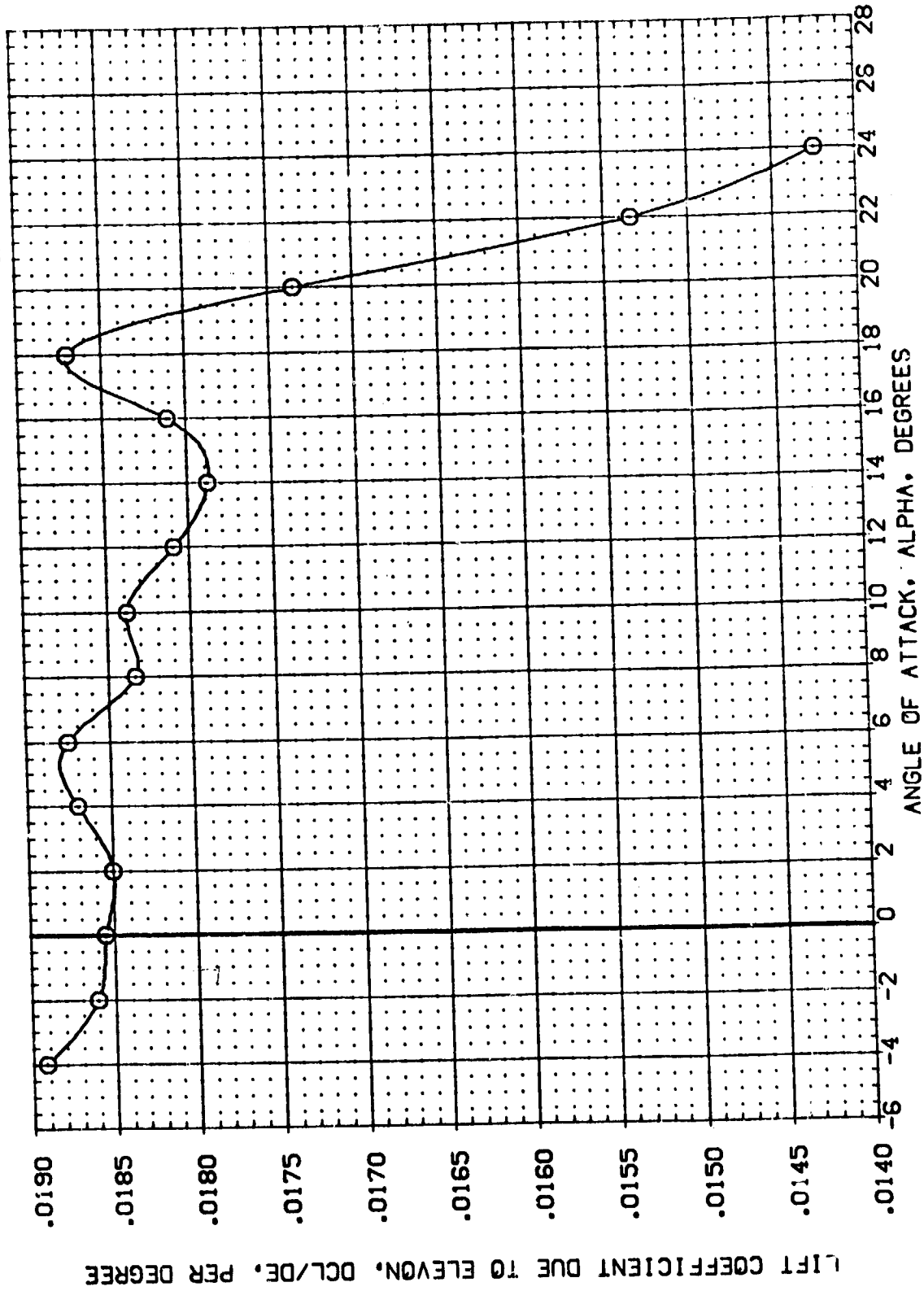


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(A)MACH = .16

DATA SET SYMBO: 0A21 B17C7H194F5 V107E23V7R6 X5

MAXELE 10.000 DELELE 10.000 BOFLAP -18.000 SPOBRK 55.000

REFERENCE INFORMATION  
 SREF 4.4119 50.FT. INCHES  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 16.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

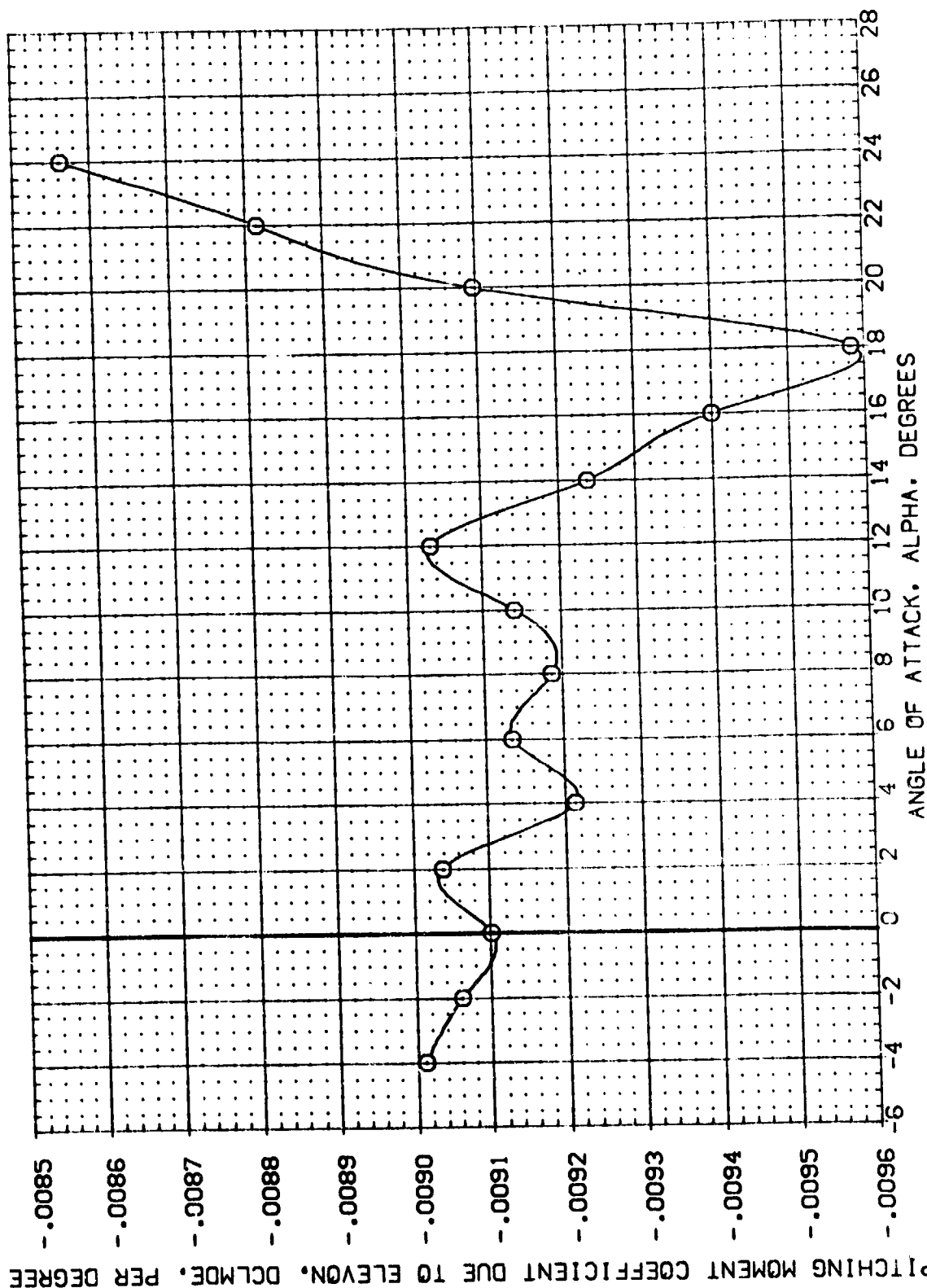


FIGURE 33 ELEVON EFFECTIVENESS WITH H19 CANARD

(ADMACH) .16

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILLON	BDLAP	SPOBRK	REFERENCE INFORMATION
(IDP174)	□	CA21 817C7 M4FS V107E23V7R6 X9	-5.00	.000	-18.000	.000	SREF 4.4119 SQ.FT. INCHES
(IDP172)	◇	CA21 817C7 M4FS V107E23V7R6 X9	.000	.000	-18.000	.000	LREF 19.2299 INCHES
(IDP173)	○	CA21 817C7 M4FS V107E23V7R6 X9	5.000	.000	-18.000	.000	BREF 37.9359 INCHES
							XMRP 43.5974 INCHES
							ZMRP .0000 INCHES
							SCALE 16.2000 INCHES
							.0405

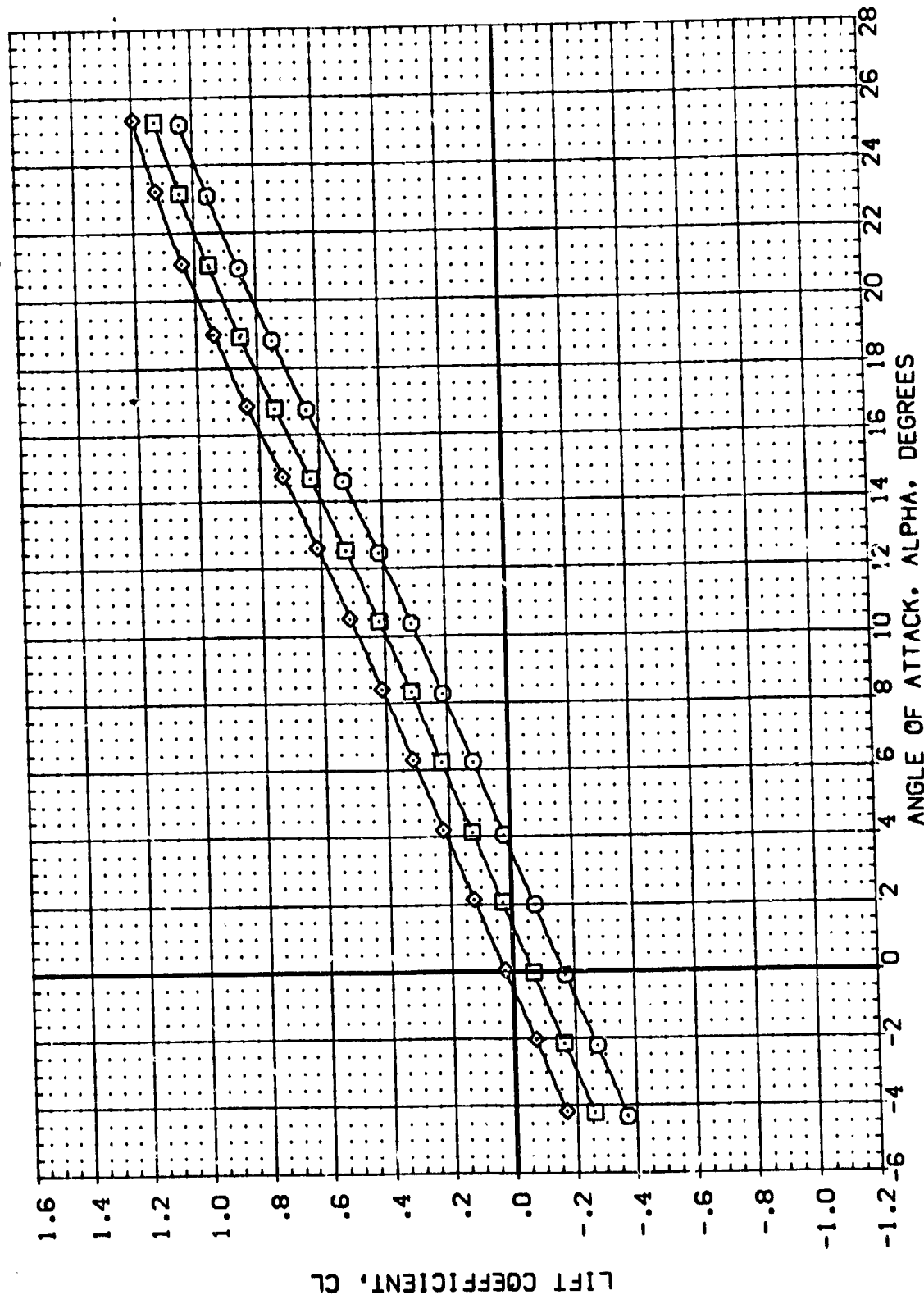


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOILER	REFERENCE INFORMATION
(IDP174)	DA21 B17C7 M4F5 V107E23V7R6 X9	-.500	.000	-18.000	.000	SREF 4.4119 50. FT
(IDP172)	DA21 B17C7 M4F5 V107E23V7R6 X9	.000	.000	-18.000	.000	LREF 19.2299 INCHES
(IDP173)	DA21 B17C7 M4F5 V107E23V7R6 X9	5.000	.000	-18.000	.000	BREF 37.9359 INCHES
						XREF 43.5974 INCHES
						YREF 16.0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

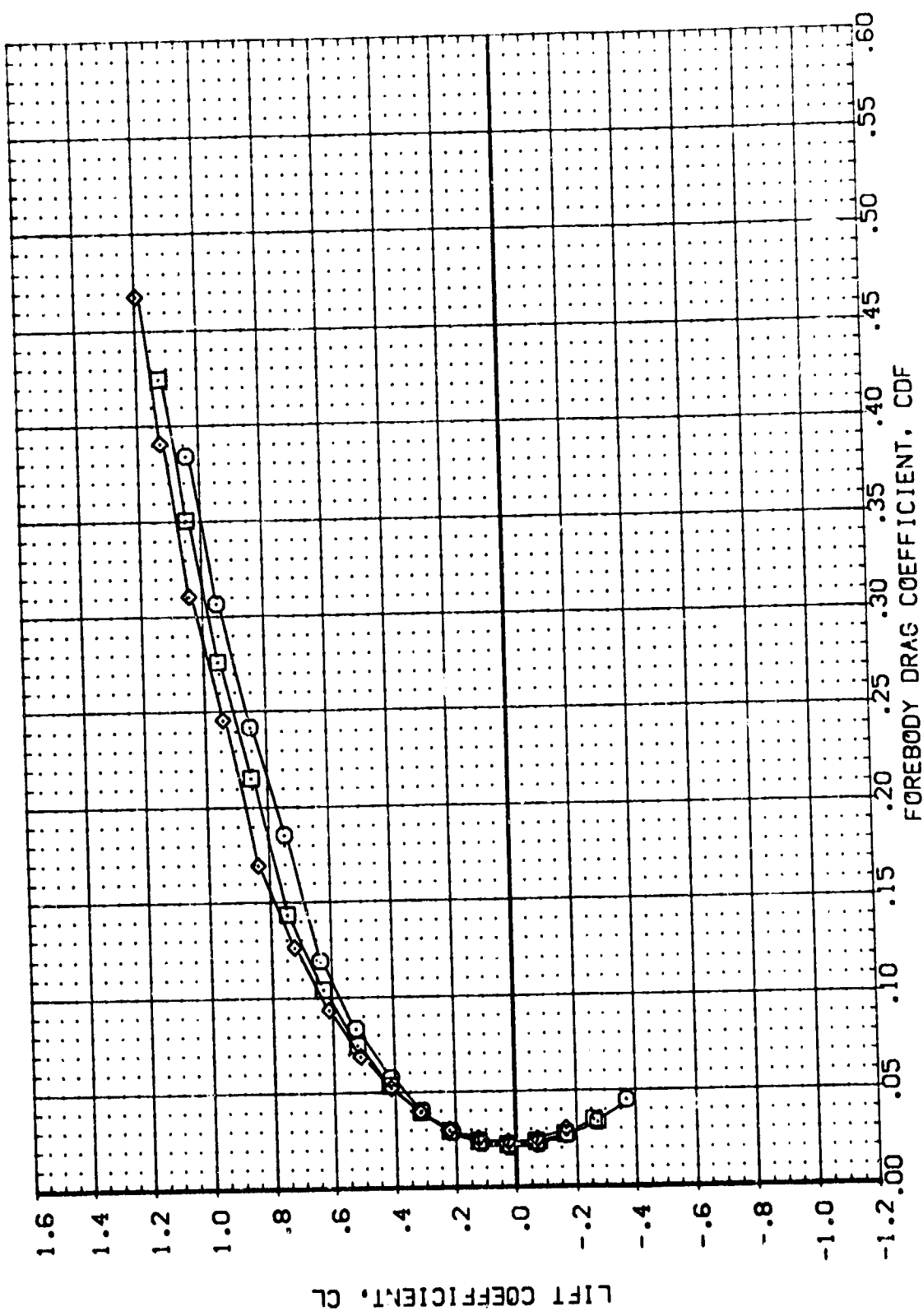


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A) MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DP174)	0A21	B17C7	M4F3	V107E23V7R6	X3
(DP172)	0A21	B17C7	M4F3	V107E23V7R6	X3
(DP173)	0A21	B17C7	M4F3	V107E23V7R6	X3

ELEVON

5.000	0.00	-18.000	0.000
0.000	0.00	-18.000	0.000
0.000	0.00	-18.000	0.000

REFERENCE INFORMATION

SREF	4.4119	50. FT.
LREF	19.27-9	INCHES
BREF	37.93-9	INCHES
YPRP	43.5974	INCHES
ZPRP	0.000	INCHES
SCALE	16.2003	INCHES
SCALE	0.0405	SCALE

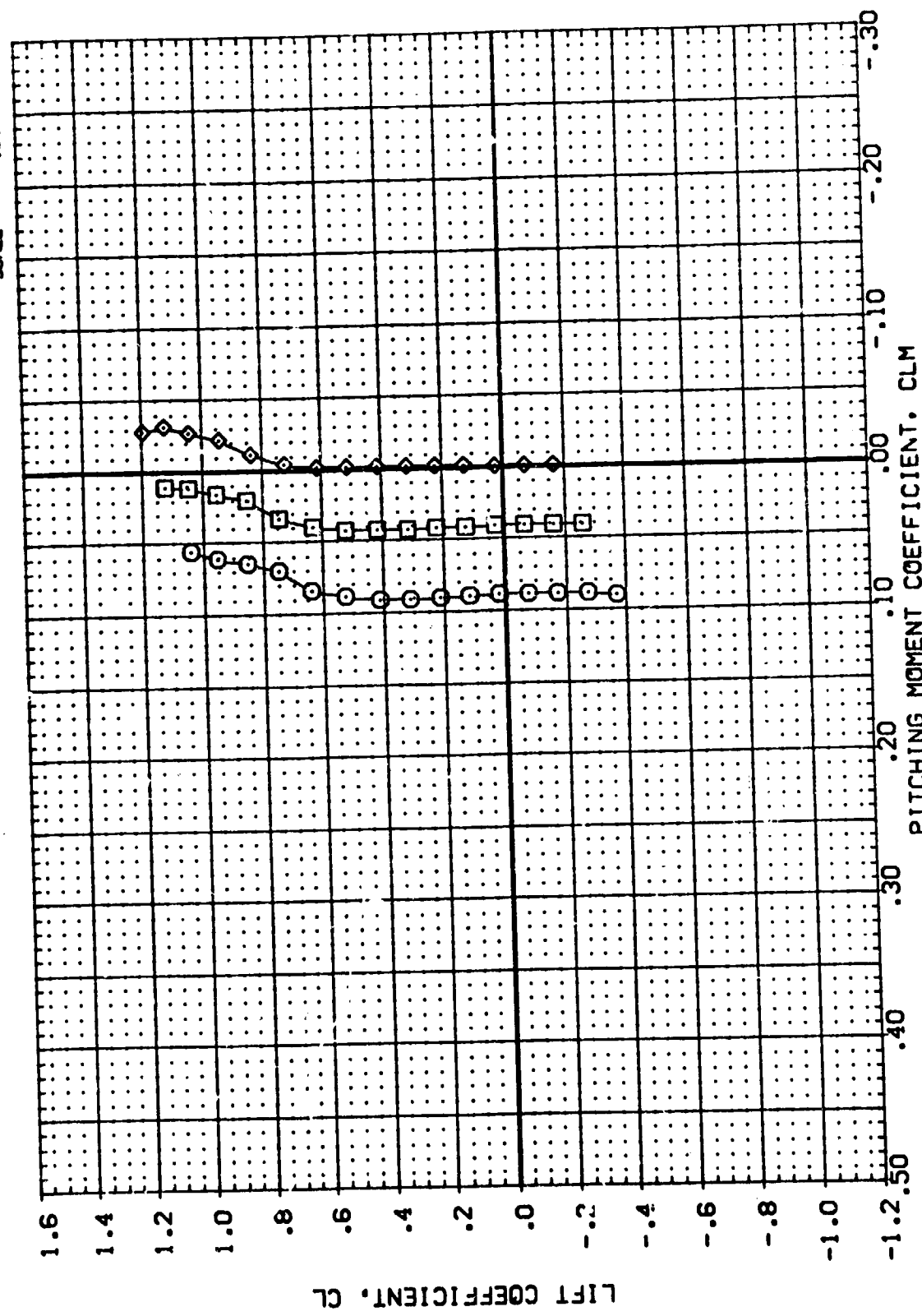


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPORBK	REFERENCE INFORMATION
{IDP174}	0A21 817C7 MAFS V107E23V7R6 X9	-5.000	.000	-18.000	.000	SREF 4.4119 SQ.FT.
{IDP172}	0A21 817C7 MAFS V107E23V7R6 X9	.000	.000	-18.000	.000	LREF 19.2299 INCHES
{IDP173}	0A21 817C7 MAFS V107E23V7R6 X9	5.000	.000	-18.000	.000	BREF 37.9359 INCHES
						YREF 43.5974 INCHES
						ZREF .0000 INCHES
						YMRP 16.2000 INCHES
						ZMRP .0405 INCHES
						SCALE

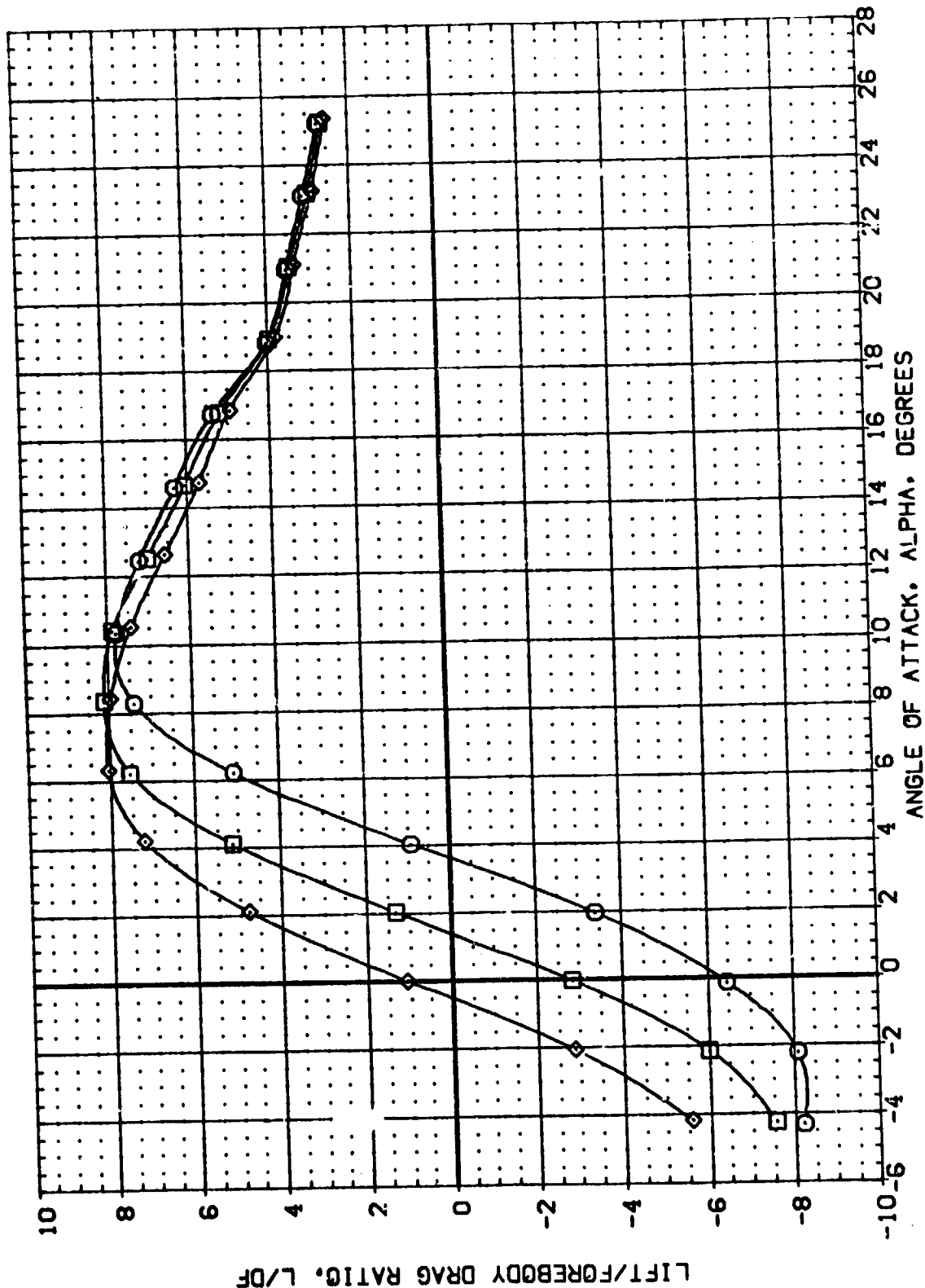


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILRON		BD/LAP		SPDRBK		REFERENCE INFORMATION	
{ID174}	DA21	B17C7	HAF5	V107E23V7R6	X9	-500	.000	-18.000	.000	SREF	4.4119	50.000	INCHES
{ID172}	DA21	B17C7	HAF5	V107E23V7R6	X9	.000	.000	-18.000	.000	LREF	19.2239	INCHES	
{ID173}	DA21	B17C7	HAF5	V107E23V7R6	X9	5.000	.000	-18.000	.000	BREF	37.9359	INCHES	
										YREF	43.5974	INCHES	
										ZREF	16.2000	INCHES	
										SCALE	.0405	SCALE	

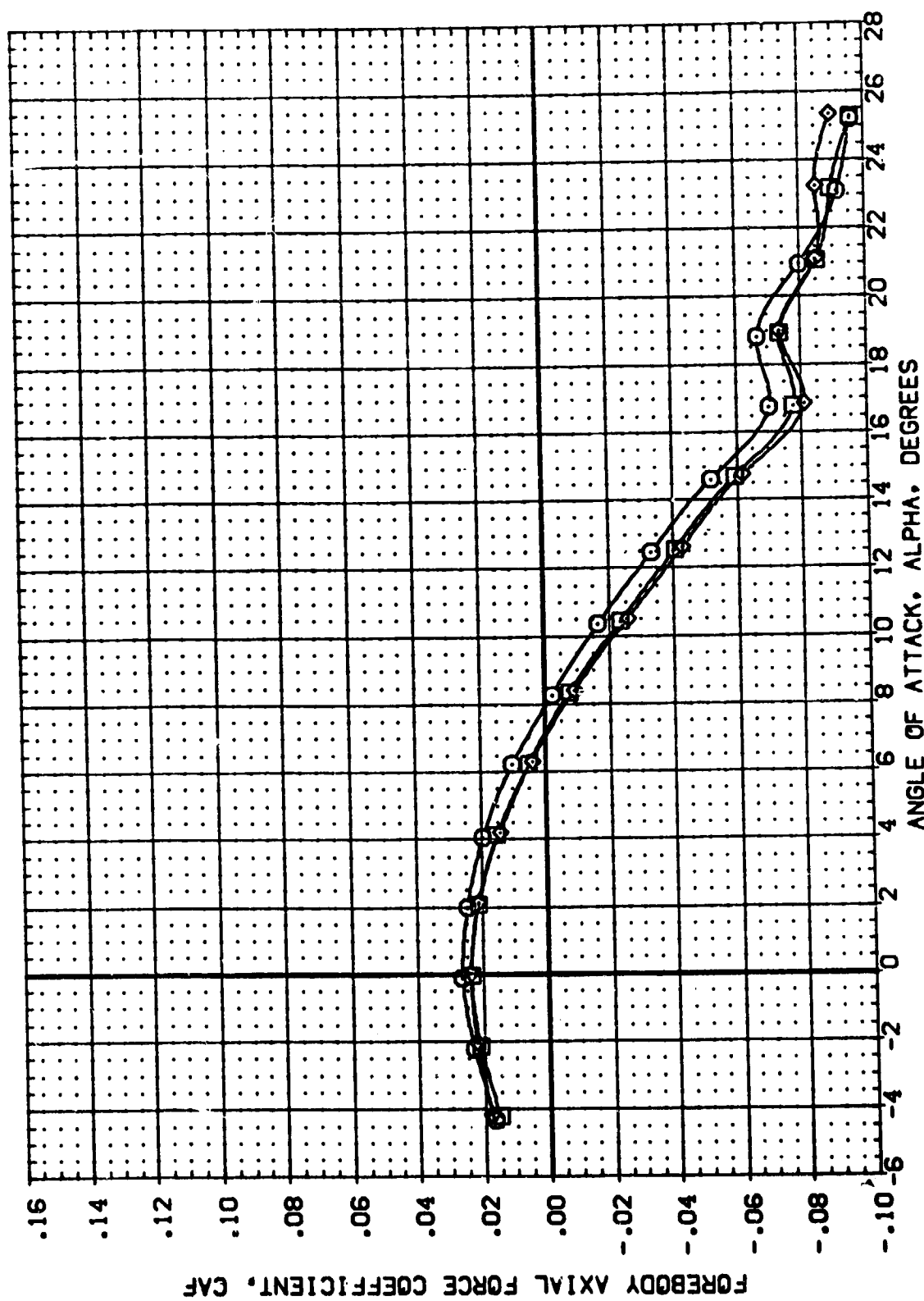


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BDFLAP	SPOILER	REFERENCE INFORMATION
(IDP174)	0A21 817C7 MAFS V107E23V7R6 X3	-.500	.000	-18.000	.000	4.4119 50.00
(IDP172)	0A21 817C7 MAFS V107E23V7R6 X3	.000	.000	-18.000	.000	19.2299 100.00
(IDP173)	0A21 817C7 MAFS V107E23V7R6 X3	5.000	.000	-18.000	.000	37.9359 100.00
						43.5974 100.00
						16.2000 100.00
						SCALE .0405

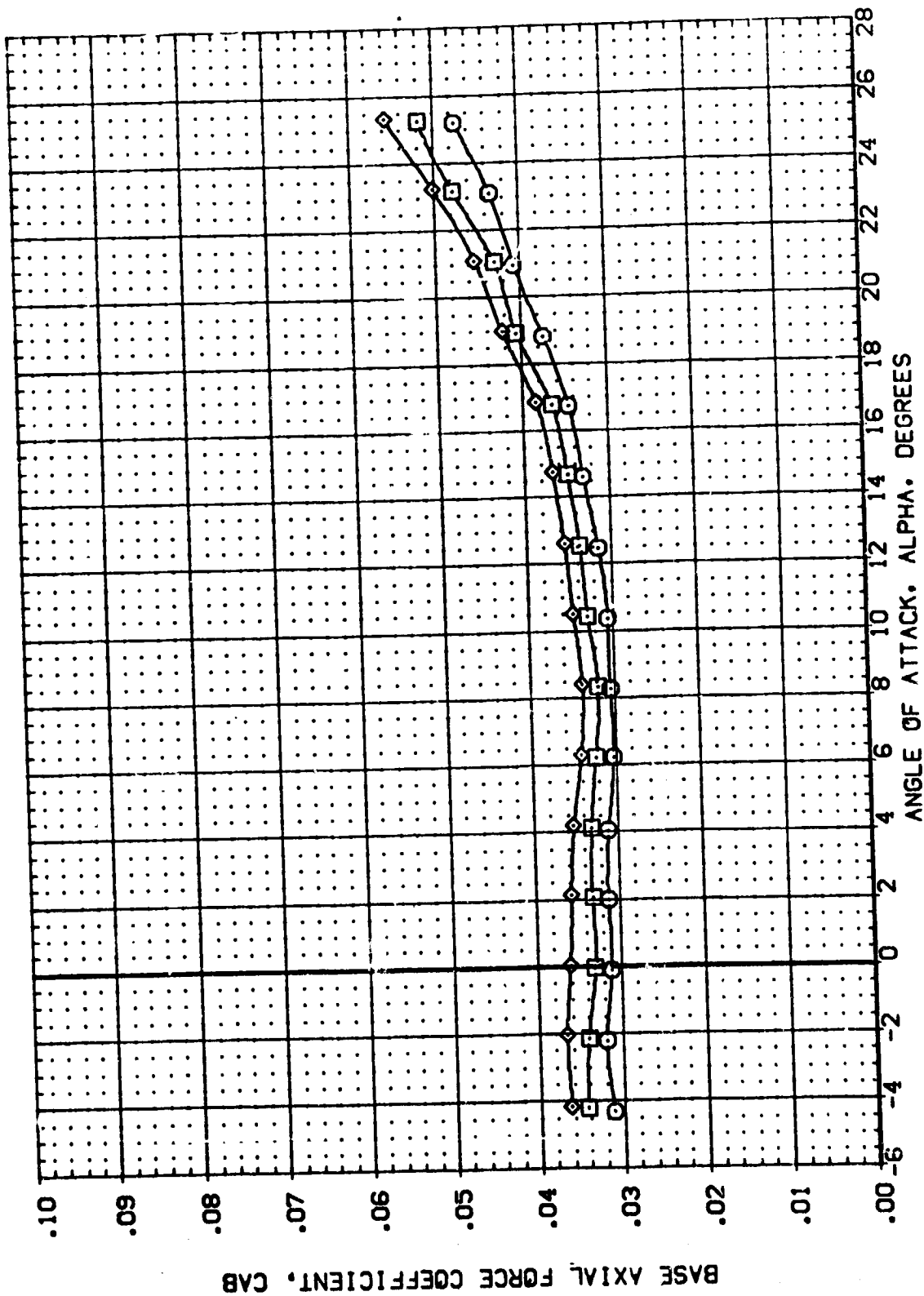


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .26

REFERENCE INFORMATION	
SREF	4.4119 SQ.FT.
LREF	19.7259 INCHES
BREF	37.9359 INCHES
XMRP	43.5574 INCHES
YMRP	.0000 INCHES
ZMRP	16.2000 INCHES
SCALE	.0405 SCALE


$$C_A]_{MACH} = .26$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRK	REFERENCE INFORMATION
(ID174)	0A21 817C7 M4F5 V107E23V7H6 X9	-5.00	.000	-18.000	.000	SREF 4.4119 SQ.FT.
(ID172)	0A21 817C7 M4F5 V107E23V7H6 X9	.000	.000	-18.000	.000	LREF 19.2288 INCHES
(ID173)	0A21 817C7 M4F5 V107E23V7H6 X9	5.000	.000	-18.000	.000	BREF 37.5358 INCHES
						XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

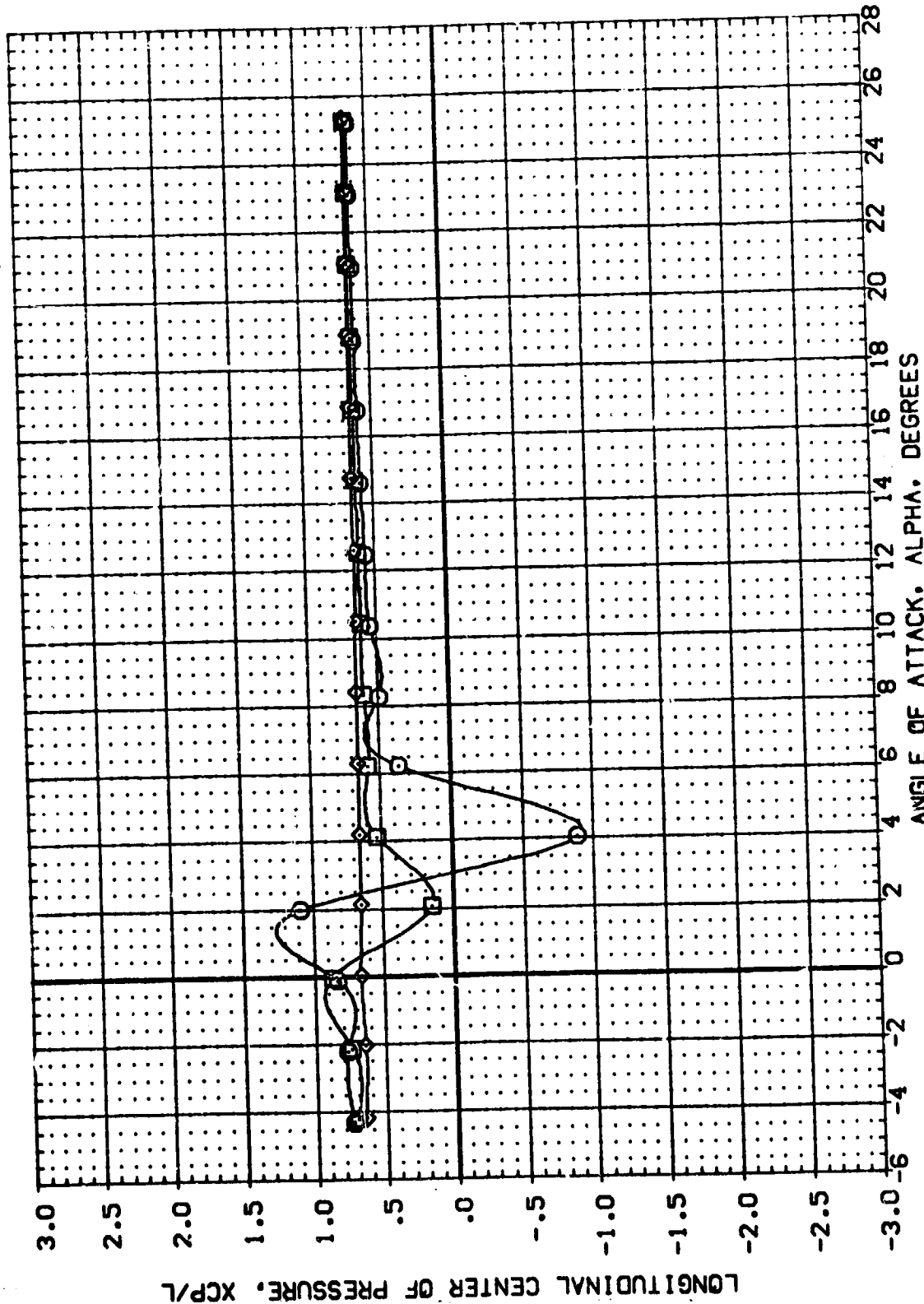


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	90° FLAP	SPDBRK	REFERENCE INFORMATION
(1DP174)	DA21 817C7 M4FS V107E23V7R5 XS	-.500	.000	-18.000	.000	SREF 4.4119 SQ.FT.
(1DP172)	DA21 817C7 M4FS V107E23V7R5 XS	.000	.000	-18.000	.000	LREF 19.2259 INCHES
(1DP173)	DA21 817C7 M4FS V107E23V7R5 XS	5.000	.000	-18.000	.000	BREF 37.5359 INCHES
						XTRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

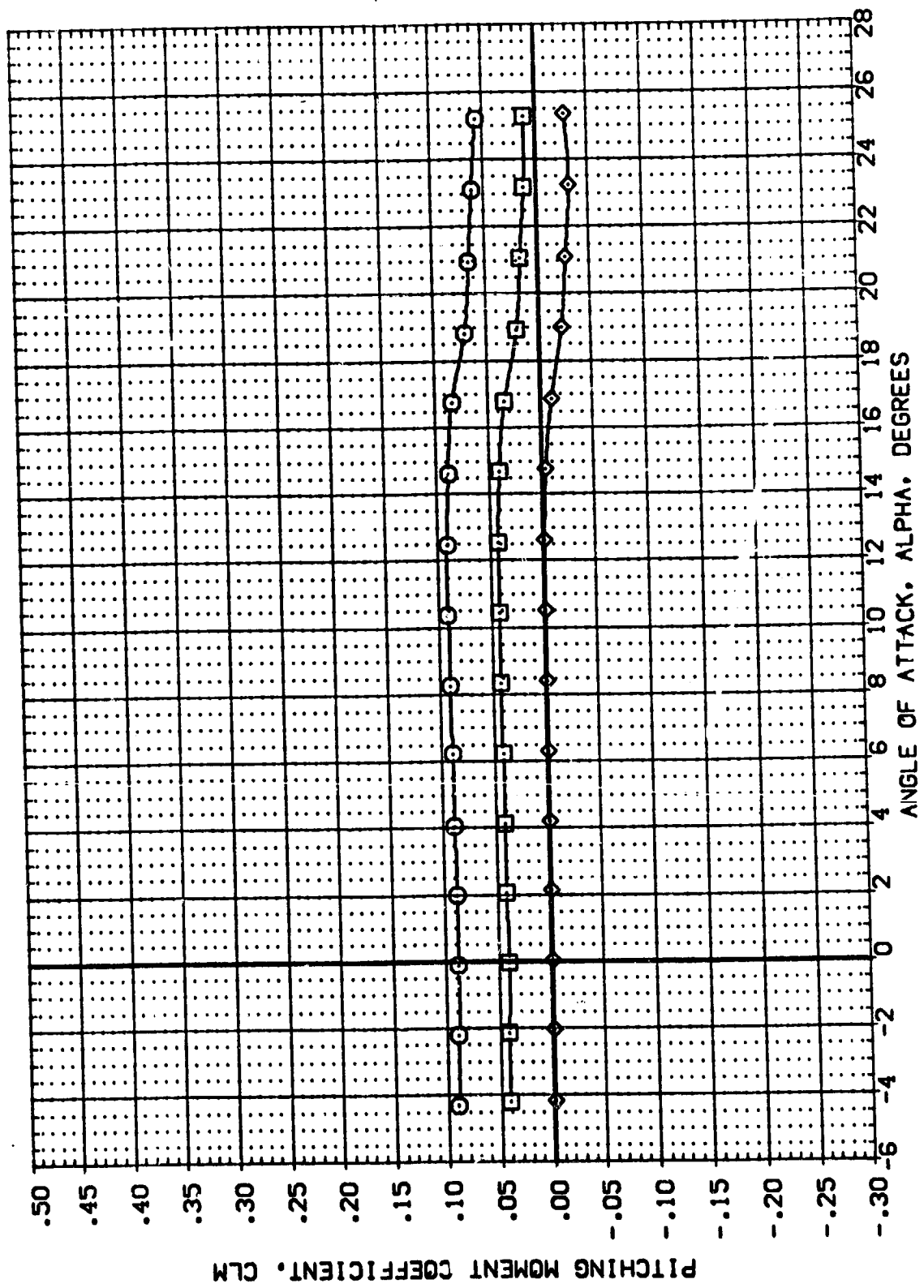


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A) MACH = .26



DATA SET SYMBOL: 00P173  
 CONFIGURATION DESCRIPTION: 0A21 817C7 MAFS V107E23V186 X9  
 MAXELE: 5.000  
 DEELE: 10.000  
 BOFLAP: -18.000  
 SPOBRK: .000  
 REFERENCE INFORMATION:  
 SREF: 4.4116 SO.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

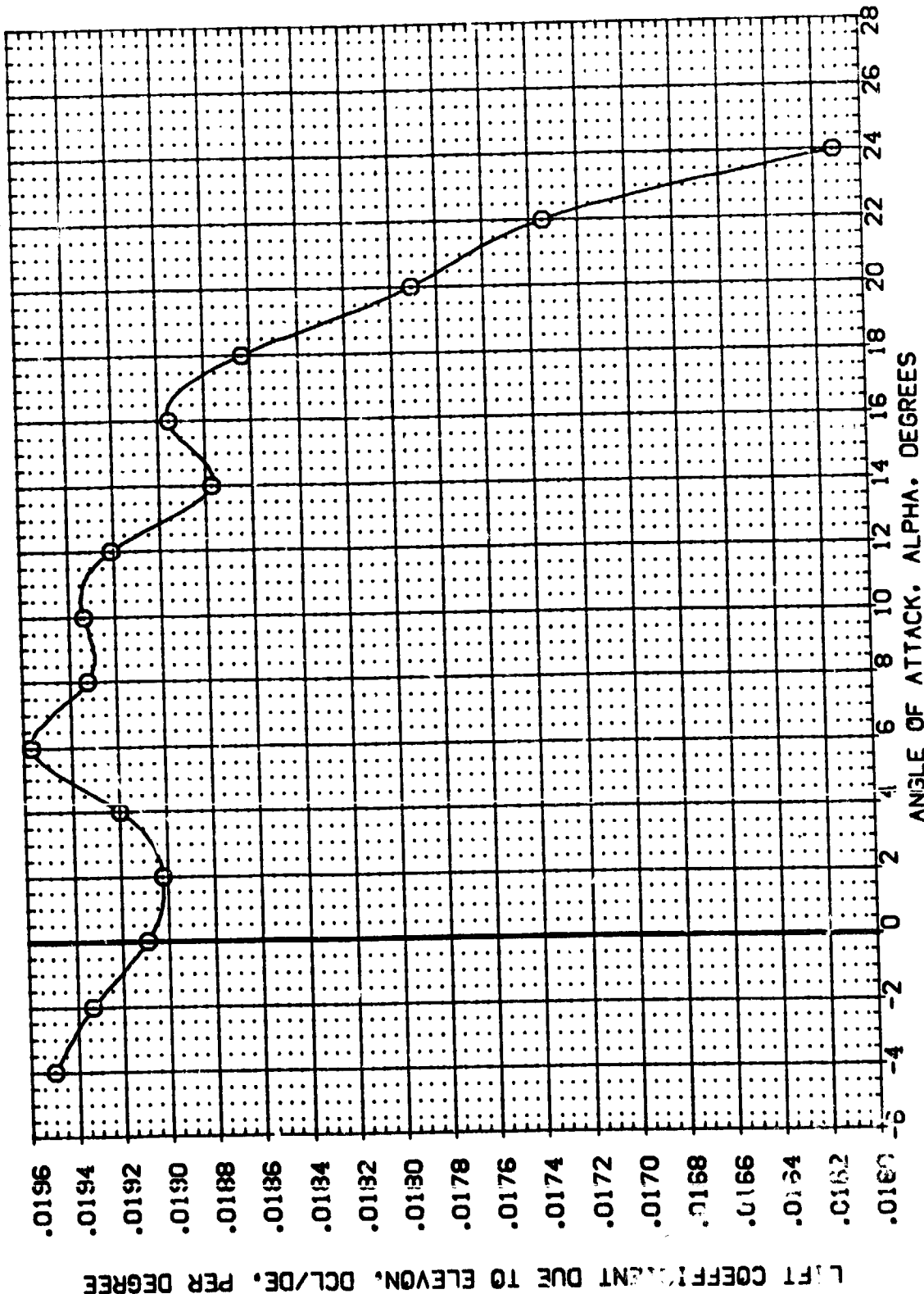


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A)MACH = .25

DATA SET SYMBOL: 00173  
 CONFIGURATION DESCRIPTION: 0A21 B17C7 M4F5 V107E23V7R6 X9  
 MAXELE: 5.000  
 DELELE: 10.000  
 BOFLAP: -18.000  
 SPDBRK: .000  
 REFERENCE INFORMATION:  
 SREF: 4.4116 SQ.FT.  
 LREF: 19.2299 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

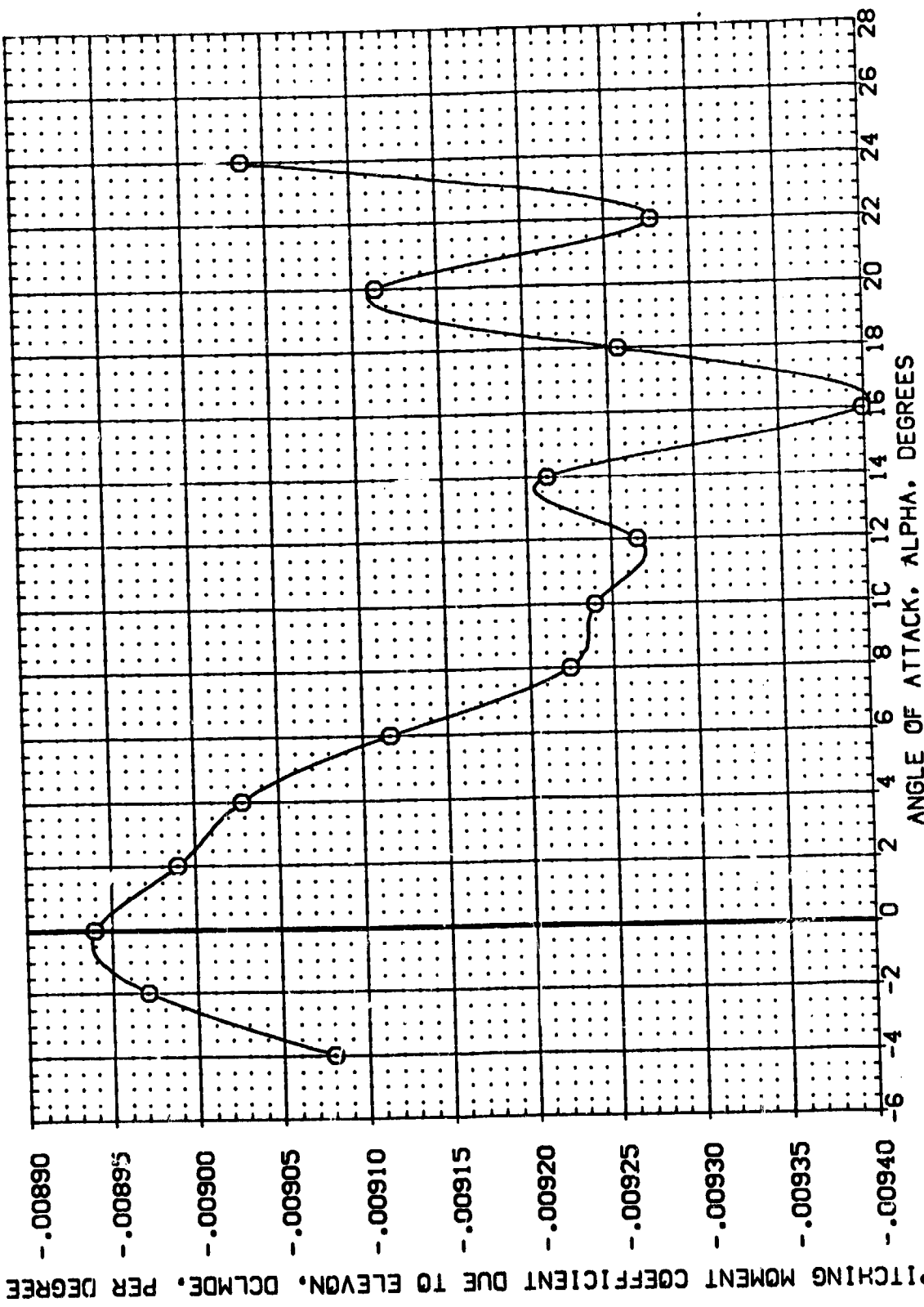


FIGURE 34 ELEVON EFFECTIVENESS WITH CANARD OFF

(A) MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(1DP088)	0A21 817C7 M4FS V107E23/7R6X9	10.000	5.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(1DP069)	0A21 817C7 M4FS V107E23/7R6X9	5.000	10.000	-18.000	55.000	LREF 19.2299 INCHES
(1DP070)	0A21 817C7 M4FS V107E23/7R6X9	0.000	15.000	-18.000	55.000	BREF 37.5359 INCHES
(1DP071)	0A21 817C7 M4FS V107E23/7R6X9	-10.000	15.000	-18.000	55.000	YMRP 43.5974 INCHES
						ZMRP 0.0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

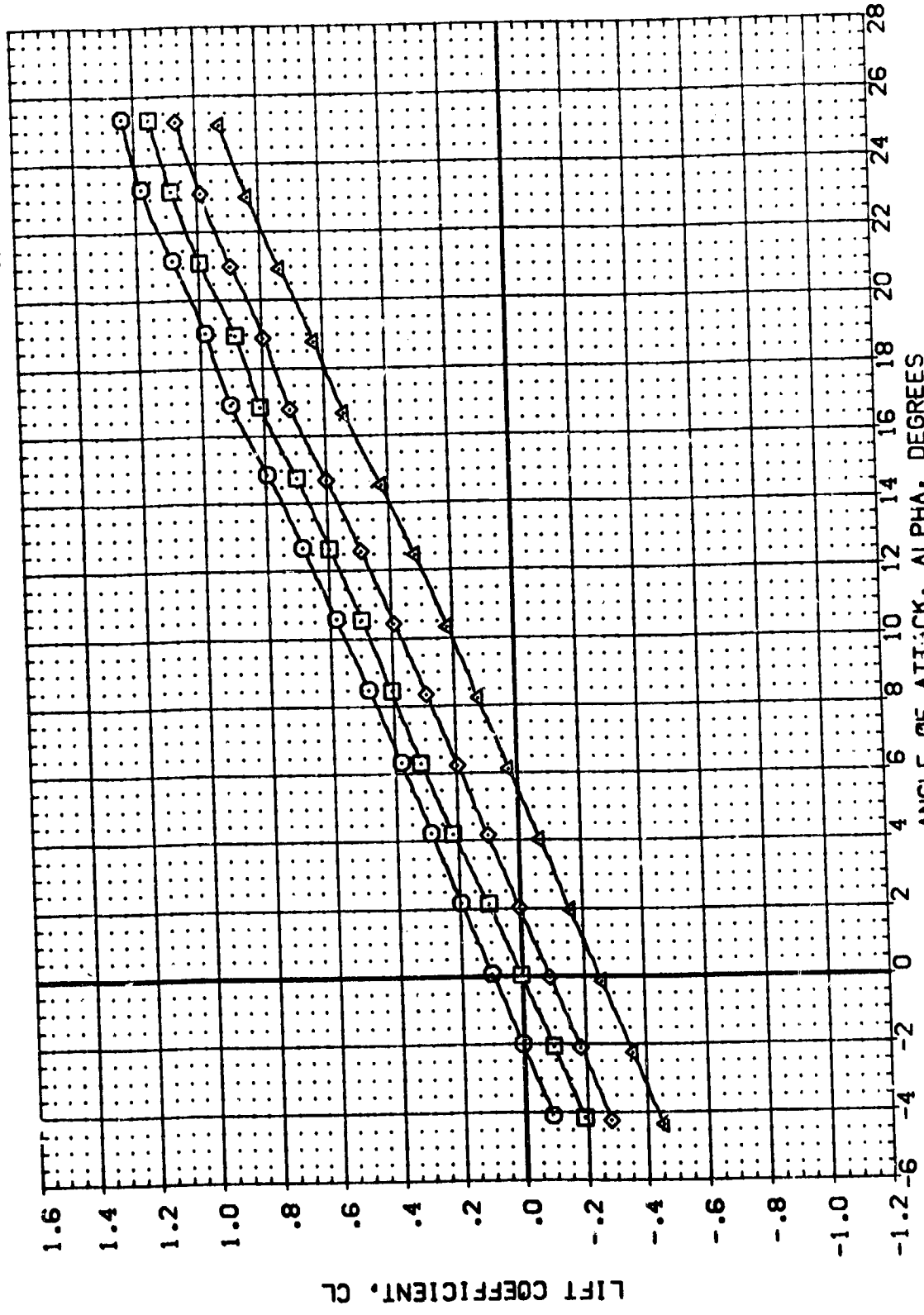


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	STICK	REFERENCE INFORMATION
(10P068)	□	OA21 B17C7 M4FS V107E23VTR6X9	10.000	5.000	-18.000	55.000	SREF 4.4119 50.01
(10P069)	○	OA21 B17C7 M4FS V107E23VTR6X9	5.000	10.000	-18.000	55.000	LREF 19.2299 INCHES
(10P070)	◇	OA21 B17C7 M4FS V107E23VTR6X9	.000	15.000	-18.000	55.000	BREF 37.9359 INCHES
(10P071)	△	OA21 B17C7 M4FS V107E23VTR6X9	-10.000	15.000	-18.000	55.000	XREF 43.5974 INCHES
							YREF 16.0000 INCHES
							ZREF 16.0000 INCHES
							SCALE .0405

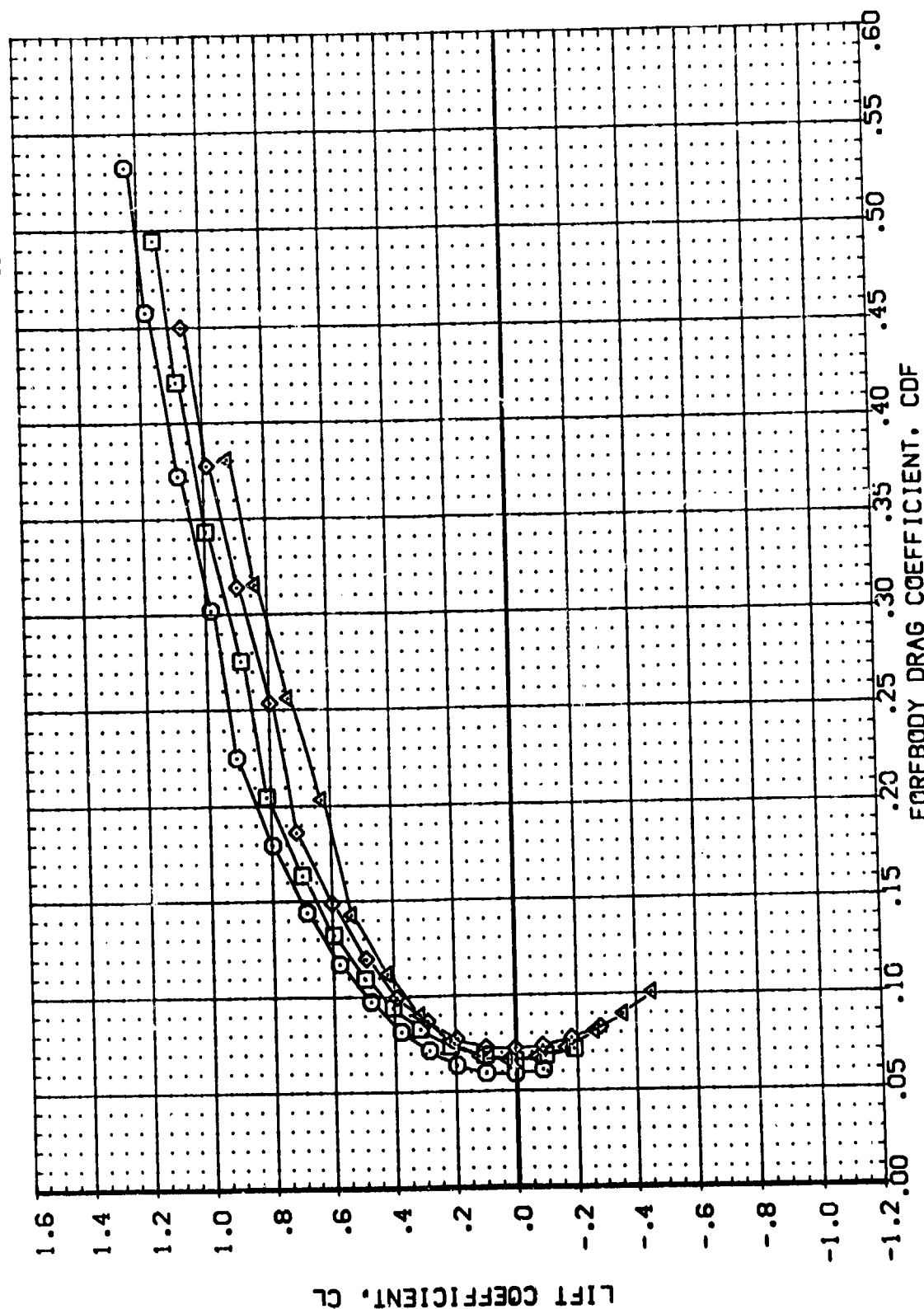


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(1DP068)	□	0A21 B17C7 M4FS V107E23V7R6X9	10.000	5.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(1DP069)	□	0A21 B17C7 M4FS V107E23V7R6X9	5.000	10.000	-18.000	55.000	LREF 19.2299 INCHES
(1DP070)	□	0A21 B17C7 M4FS V107E23V7R6X9	.000	15.000	-18.000	55.000	BREF 37.9359 INCHES
(1DP071)	△	0A21 B17C7 M4FS V107E23V7R6X9	-10.000	15.000	-18.000	55.000	XMRP 43.5974 INCHES
							YMRP .0000 INCHES
							ZMRP 16.2000 INCHES
							SCALE .0405 SCALE

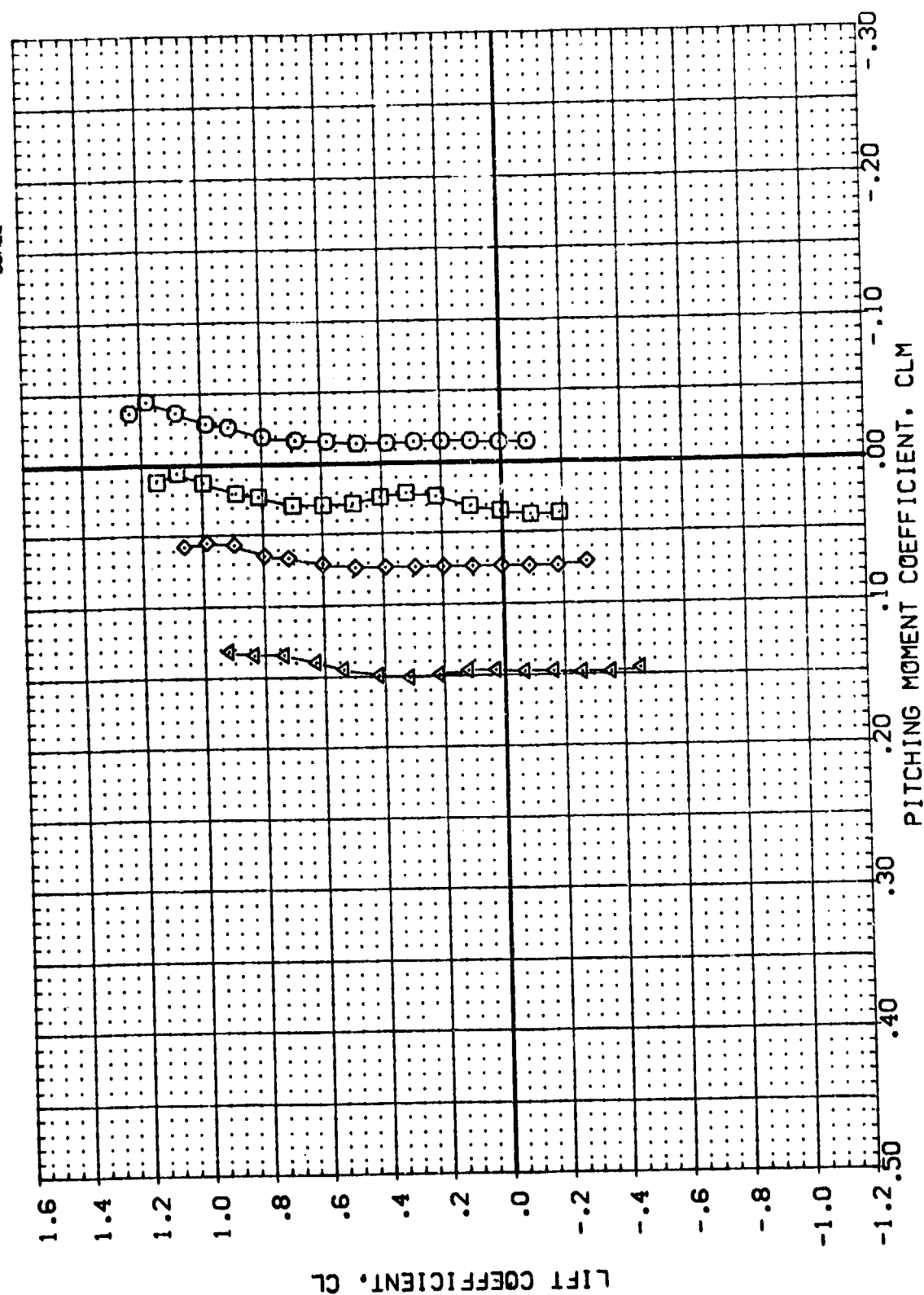


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(IDP068)	CA21 B17C7 MAFS V107E23V7R6X9	10.000	5.000	-18.000	55.000	SREF 4.4119 50. FT
(IDP069)	CA21 B17C7 MAFS V107E23V7R6X9	5.000	10.000	-18.000	55.000	LREF 19.2299 INCHES
(IDP070)	CA21 B17C7 MAFS V107E23V7R6X9	.000	15.000	-18.000	55.000	BREF 37.9359 INCHES
(IDP071)	CA21 B17C7 MAFS V107E23V7R6X9	-10.000	15.000	-18.000	55.000	YREF 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

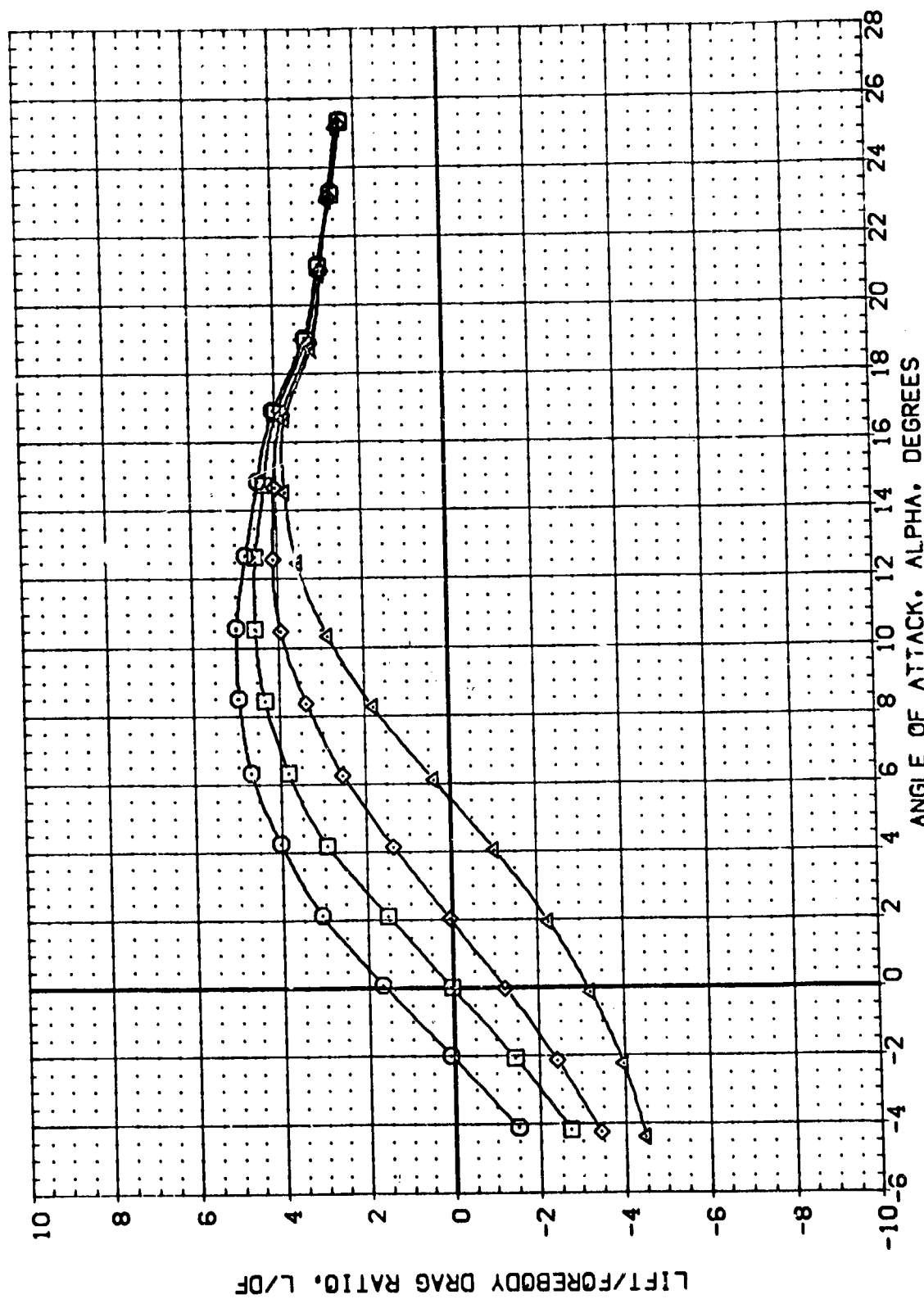


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
(IDP068)	0A21	817C7
(IDP069)	0A21	817C7
(IDP070)	0A21	817C7
(IDP071)	0A21	817C7

REFERENCE INFORMATION

REFERENCE	INCHES	SCALE
SREF	4.4119	50.000
LREF	19.2259	55.000
BREF	37.5359	55.000
XREF	43.5974	55.000
YREF	16.0000	55.000
ZREF	16.0000	55.000
SCALE	0.0405	

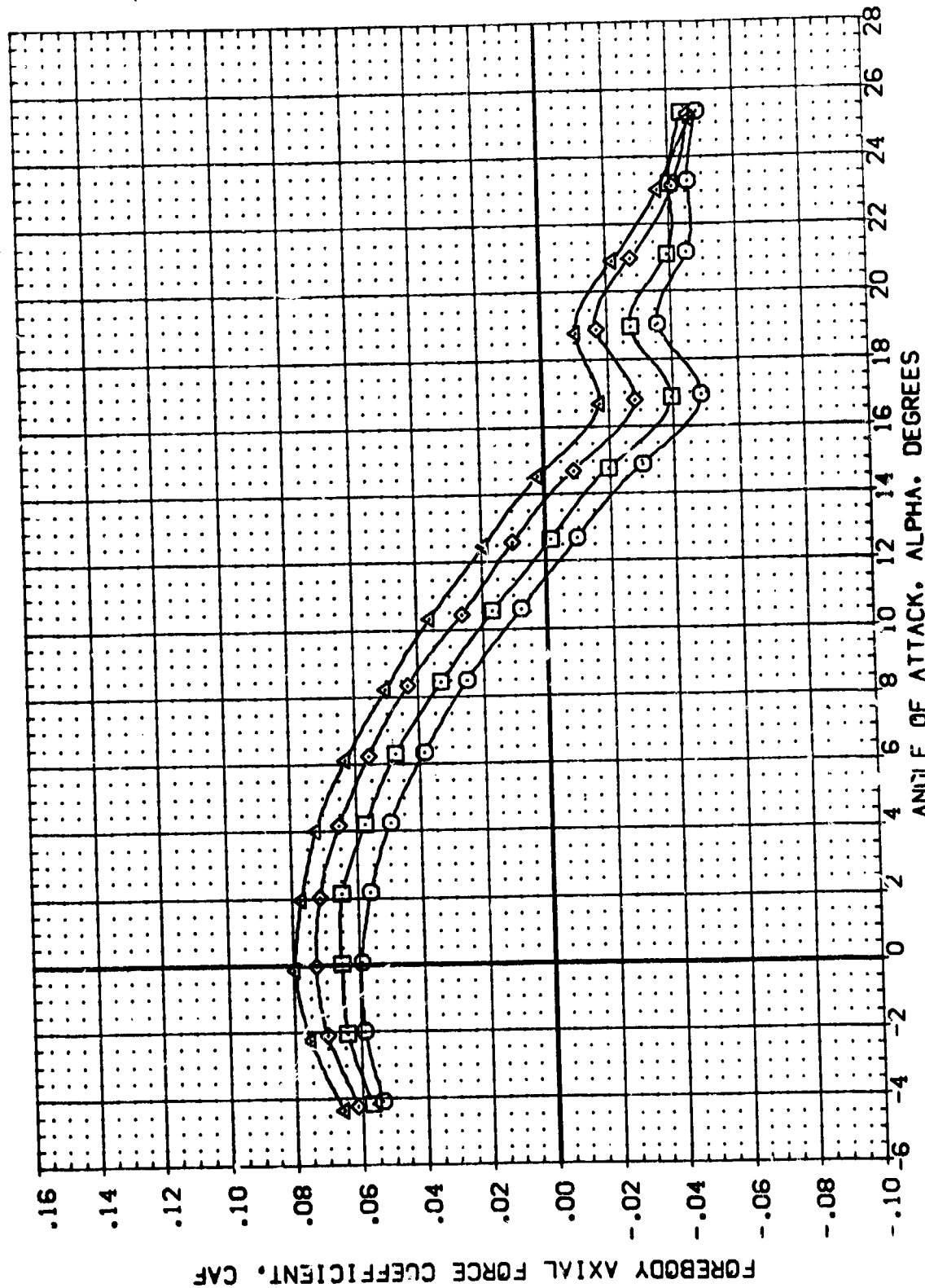


FIGURE 35 LONGITUDINAL EFFECTS OFAILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(1DPO88)	DA21 B17C7 M4FS V107E23V7R6X9	10.000	5.000	-18.000	55.000	SREF 4.41.9 SQ.FT.
(1DPO89)	DA21 B17C7 M4FS V107E23V7R6X9	10.000	10.000	-18.000	55.000	LREF 19.7258 INCHES
(1DPO90)	DA21 B17C7 M4FS V107E23V7R6X9	5.000	10.000	-18.000	55.000	BREF 37.5355 INCHES
(1DPO91)	DA21 B17C7 M4FS V107E23V7R6X9	5.000	15.000	-18.000	55.000	XREF 43.5574 INCHES
(1DPO92)	DA21 B17C7 M4FS V107E23V7R6X9	-10.000	15.000	-18.000	55.000	YREF 16.2000 INCHES
						ZREF .0405 SCALE

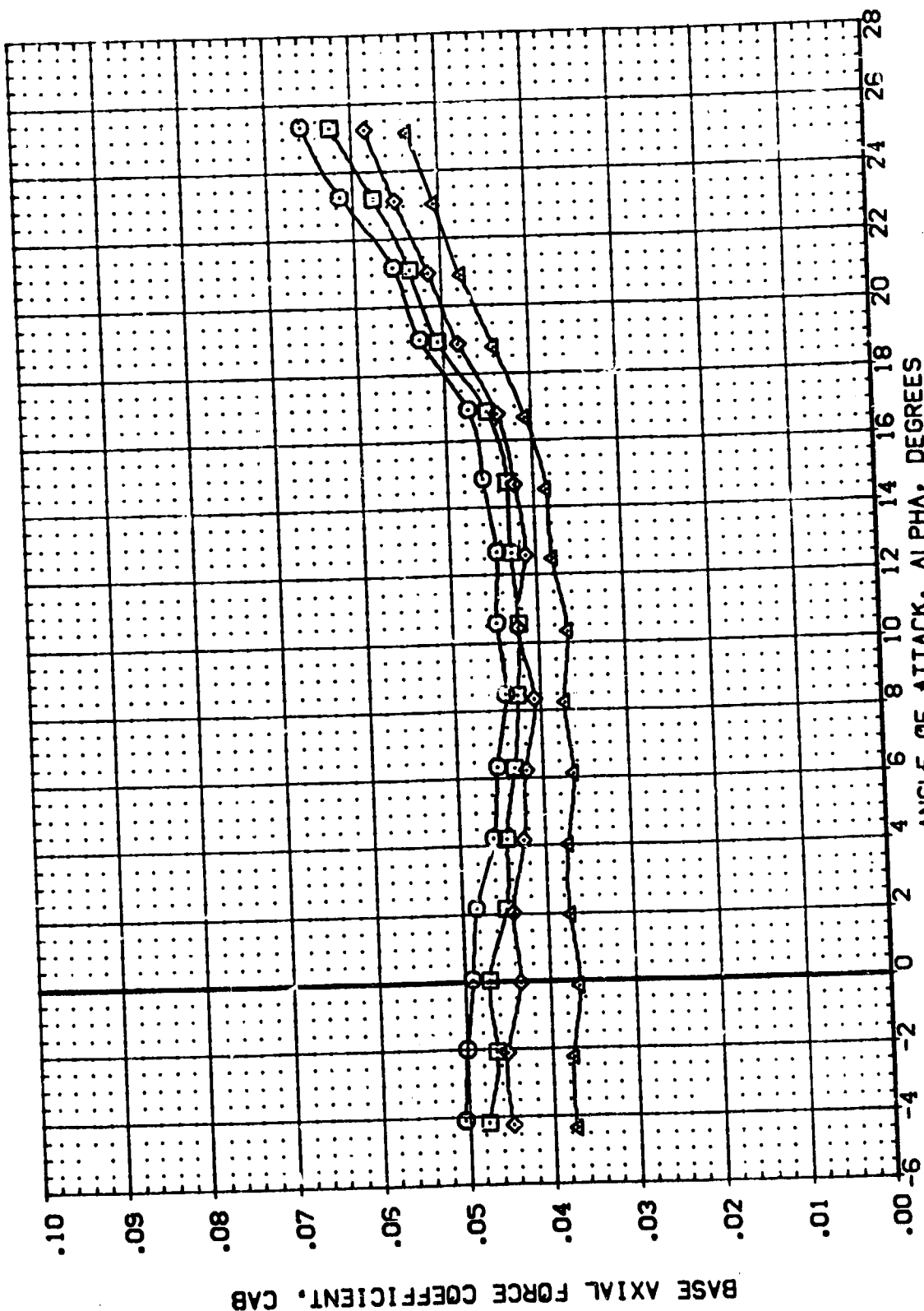


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(1DP058)	BA21 B17C7 M4F5 V107E23V/TR6X9	10.000	5.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(1DP059)	BA21 B17C7 M4F5 V107E23V/TR6X9	5.000	10.000	-18.000	55.000	LREF 19.2288 INCHES
(1DP060)	BA21 B17C7 M4F5 V107E23V/TR6X9	0.000	15.000	-18.000	55.000	BREF 37.9539 INCHES
(1DP070)	BA21 B17C7 M4F5 V107E23V/TR6X9	-10.000	15.000	-18.000	55.000	XREF 43.9874 INCHES
(1DP071)	BA21 B17C7 M4F5 V107E23V/TR6X9					YREF .0000 INCHES
						ZREF 16.2030 INCHES
						SCALE .0405

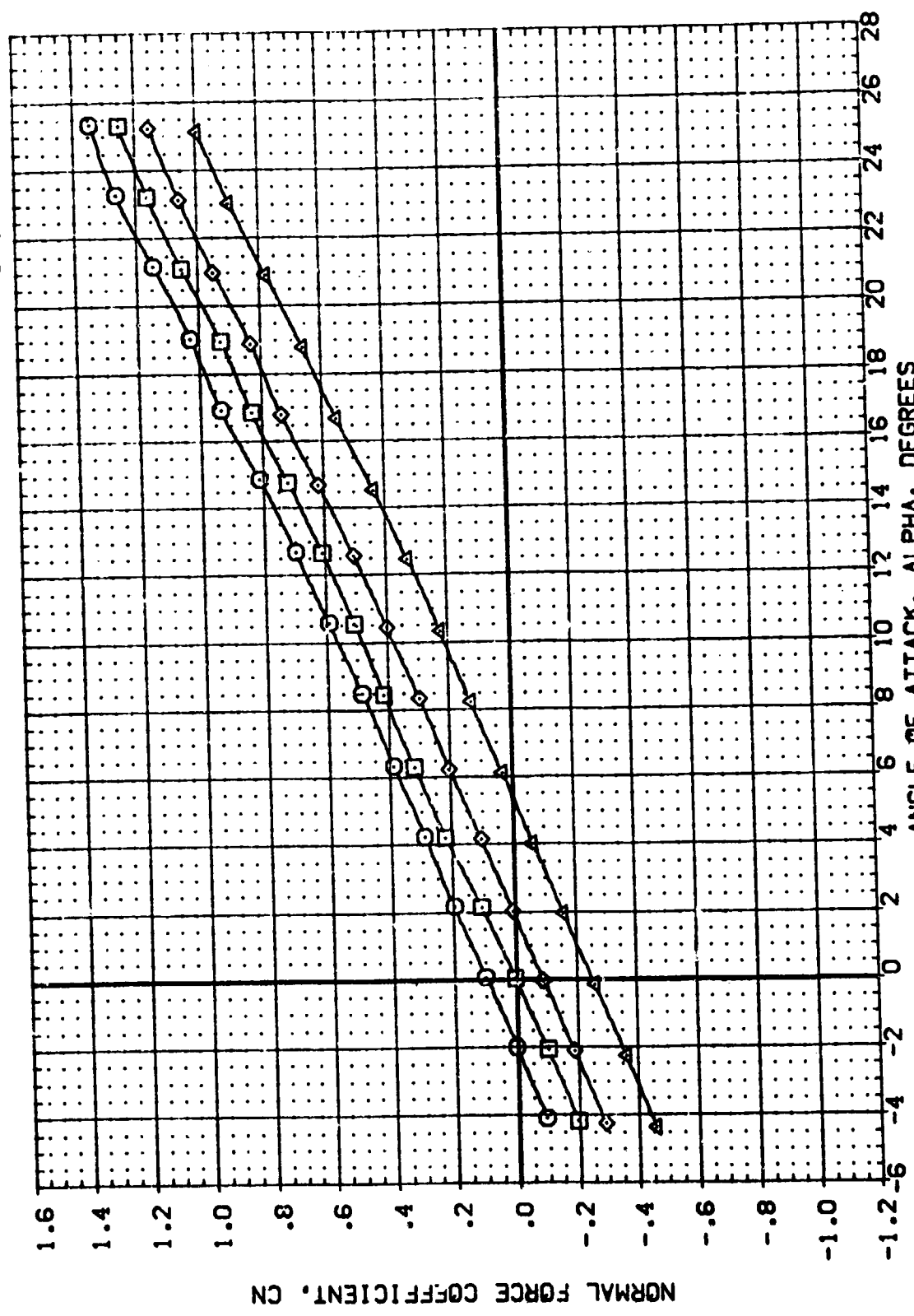


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(1D088)	0A21	B17C7	M4F5	V107E23V/TRSX9
(1D089)	0A21	B17C7	M4F5	V107E23V/TRSX9
(1D090)	0A21	B17C7	M4F5	V107E23V/TRSX9
(1D091)	0A21	B17C7	M4F5	V107E23V/TRSX9

REFERENCE INFORMATION

SREF	4.4119	SO.FT.
LREF	19.2289	INCHES
BREF	37.9359	INCHES
XPRP	43.5974	INCHES
YPRP	.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	SCALE

ELEVON AILERON BOFLAP SPOBRK

10.000	5.000	-18.000	55.000
5.000	10.000	-18.000	55.000
-10.000	15.000	-18.000	55.000

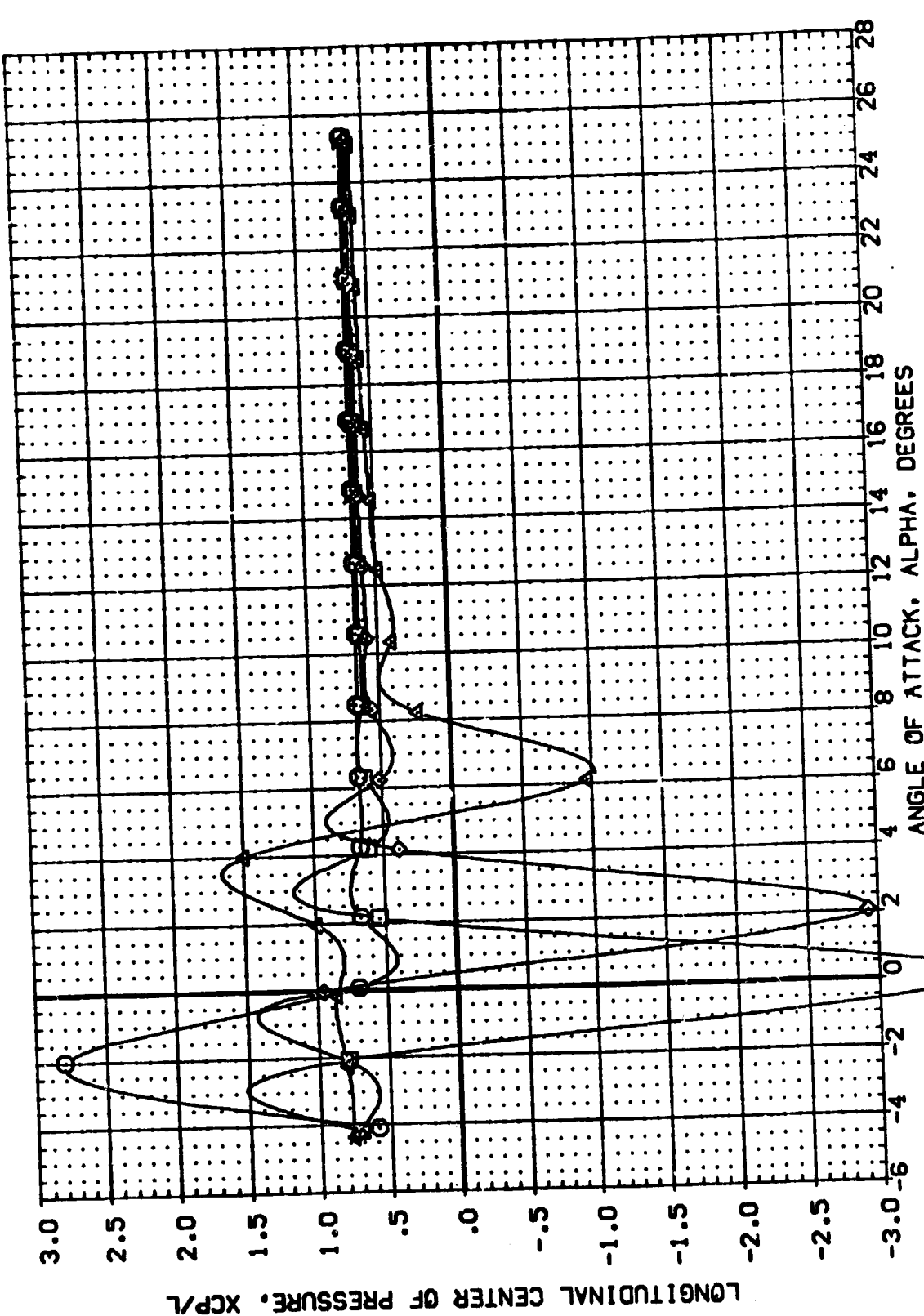


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELEVON		AILERON		BOFLAP		SPDRBK		REFERENCE INFORMATION		SQ.F.	
(DP088)	0A21	817C7	MAF5	10.000	5.000	-18.000	55.000	SREF	4.4119	INC-E5					
(DP089)	0A21	817C7	MAF5	5.000	10.000	-18.000	55.000	LREF	19.2299	INC-E5					
(DP070)	0A21	817C7	MAF5	0.000	15.000	-18.000	55.000	BREF	37.9359	INC-E5					
(DP071)	0A21	817C7	MAF5	-10.000	15.000	-18.000	55.000	XPRP	43.5971	INC-E5					
								YPRP	0.000	INC-E5					
								ZPRP	16.2000	INC-E5					
								SCALE	0.0405	SCALE					

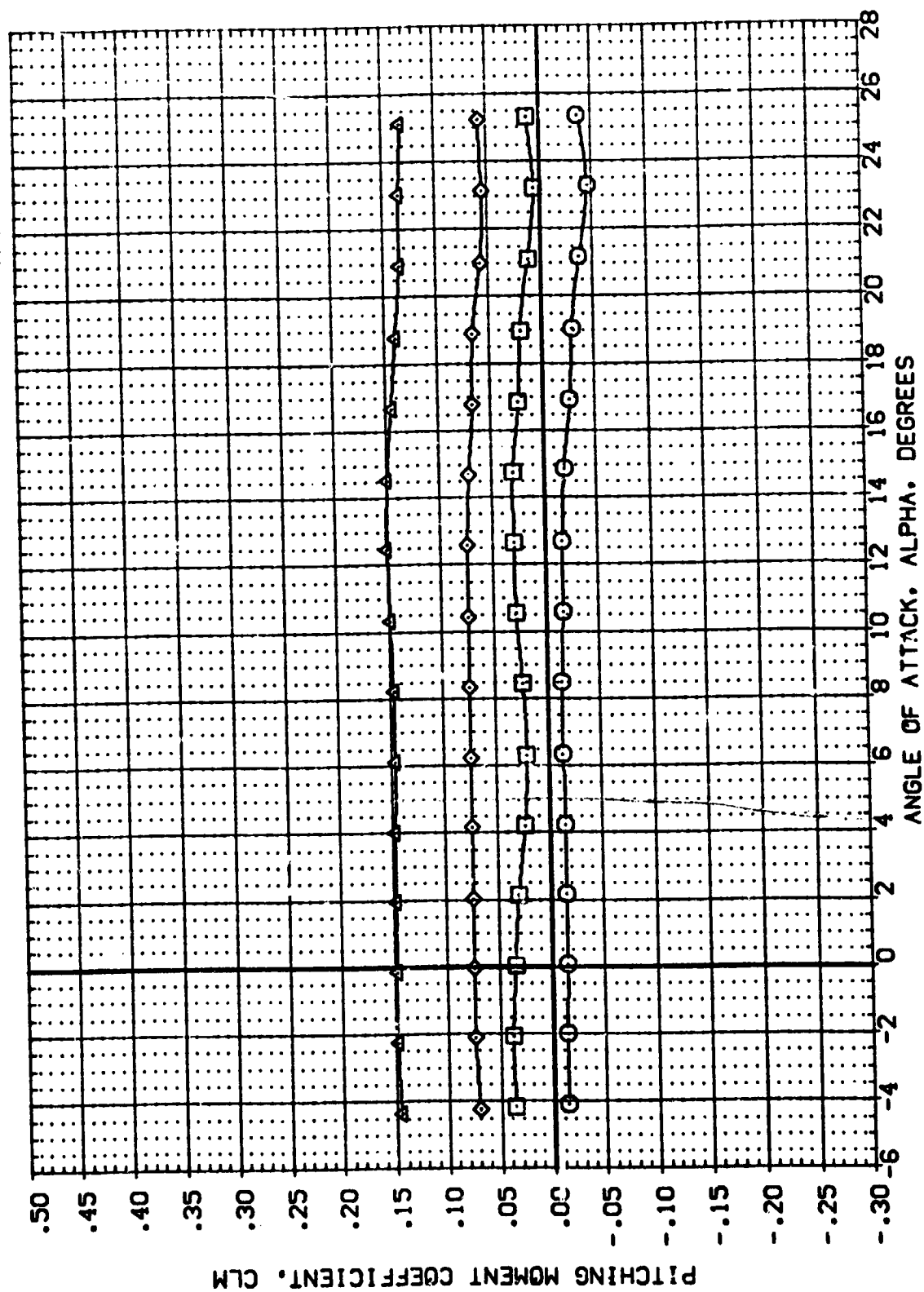


FIGURE 35 LONGITUDINAL EFFECTS OF AILERON DEFLECTION

(M)MACH = .26

DATA SL	SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
01	01	CA21	-20.000	.000	-18.000	55.000	SREF 4.419
02	02	CA21	-10.000	.000	-18.000	55.000	LREF 9.2798
03	03	CA21	10.000	.000	-18.000	55.000	BRF 37.9333
04	04	CA21		.000	-18.000	55.000	YREF 43.5974
05	05	CA21		.000	-18.000	55.000	YREF 43.5974
06	06	CA21		.000	-18.000	55.000	YREF 43.5974
07	07	CA21		.000	-18.000	55.000	YREF 43.5974
08	08	CA21		.000	-18.000	55.000	YREF 43.5974
09	09	CA21		.000	-18.000	55.000	YREF 43.5974
10	10	CA21		.000	-18.000	55.000	YREF 43.5974
11	11	CA21		.000	-18.000	55.000	YREF 43.5974
12	12	CA21		.000	-18.000	55.000	YREF 43.5974
13	13	CA21		.000	-18.000	55.000	YREF 43.5974
14	14	CA21		.000	-18.000	55.000	YREF 43.5974
15	15	CA21		.000	-18.000	55.000	YREF 43.5974
16	16	CA21		.000	-18.000	55.000	YREF 43.5974
17	17	CA21		.000	-18.000	55.000	YREF 43.5974
18	18	CA21		.000	-18.000	55.000	YREF 43.5974
19	19	CA21		.000	-18.000	55.000	YREF 43.5974
20	20	CA21		.000	-18.000	55.000	YREF 43.5974
21	21	CA21		.000	-18.000	55.000	YREF 43.5974
22	22	CA21		.000	-18.000	55.000	YREF 43.5974
23	23	CA21		.000	-18.000	55.000	YREF 43.5974
24	24	CA21		.000	-18.000	55.000	YREF 43.5974
25	25	CA21		.000	-18.000	55.000	YREF 43.5974
26	26	CA21		.000	-18.000	55.000	YREF 43.5974
27	27	CA21		.000	-18.000	55.000	YREF 43.5974
28	28	CA21		.000	-18.000	55.000	YREF 43.5974
29	29	CA21		.000	-18.000	55.000	YREF 43.5974
30	30	CA21		.000	-18.000	55.000	YREF 43.5974
31	31	CA21		.000	-18.000	55.000	YREF 43.5974
32	32	CA21		.000	-18.000	55.000	YREF 43.5974
33	33	CA21		.000	-18.000	55.000	YREF 43.5974
34	34	CA21		.000	-18.000	55.000	YREF 43.5974
35	35	CA21		.000	-18.000	55.000	YREF 43.5974
36	36	CA21		.000	-18.000	55.000	YREF 43.5974
37	37	CA21		.000	-18.000	55.000	YREF 43.5974
38	38	CA21		.000	-18.000	55.000	YREF 43.5974
39	39	CA21		.000	-18.000	55.000	YREF 43.5974
40	40	CA21		.000	-18.000	55.000	YREF 43.5974
41	41	CA21		.000	-18.000	55.000	YREF 43.5974
42	42	CA21		.000	-18.000	55.000	YREF 43.5974
43	43	CA21		.000	-18.000	55.000	YREF 43.5974
44	44	CA21		.000	-18.000	55.000	YREF 43.5974
45	45	CA21		.000	-18.000	55.000	YREF 43.5974
46	46	CA21		.000	-18.000	55.000	YREF 43.5974
47	47	CA21		.000	-18.000	55.000	YREF 43.5974
48	48	CA21		.000	-18.000	55.000	YREF 43.5974
49	49	CA21		.000	-18.000	55.000	YREF 43.5974
50	50	CA21		.000	-18.000	55.000	YREF 43.5974
51	51	CA21		.000	-18.000	55.000	YREF 43.5974
52	52	CA21		.000	-18.000	55.000	YREF 43.5974
53	53	CA21		.000	-18.000	55.000	YREF 43.5974
54	54	CA21		.000	-18.000	55.000	YREF 43.5974
55	55	CA21		.000	-18.000	55.000	YREF 43.5974
56	56	CA21		.000	-18.000	55.000	YREF 43.5974
57	57	CA21		.000	-18.000	55.000	YREF 43.5974
58	58	CA21		.000	-18.000	55.000	YREF 43.5974
59	59	CA21		.000	-18.000	55.000	YREF 43.5974
60	60	CA21		.000	-18.000	55.000	YREF 43.5974
61	61	CA21		.000	-18.000	55.000	YREF 43.5974
62	62	CA21		.000	-18.000	55.000	YREF 43.5974
63	63	CA21		.000	-18.000	55.000	YREF 43.5974
64	64	CA21		.000	-18.000	55.000	YREF 43.5974
65	65	CA21		.000	-18.000	55.000	YREF 43.5974
66	66	CA21		.000	-18.000	55.000	YREF 43.5974
67	67	CA21		.000	-18.000	55.000	YREF 43.5974
68	68	CA21		.000	-18.000	55.000	YREF 43.5974
69	69	CA21		.000	-18.000	55.000	YREF 43.5974
70	70	CA21		.000	-18.000	55.000	YREF 43.5974
71	71	CA21		.000	-18.000	55.000	YREF 43.5974
72	72	CA21		.000	-18.000	55.000	YREF 43.5974
73	73	CA21		.000	-18.000	55.000	YREF 43.5974
74	74	CA21		.000	-18.000	55.000	YREF 43.5974
75	75	CA21		.000	-18.000	55.000	YREF 43.5974
76	76	CA21		.000	-18.000	55.000	YREF 43.5974
77	77	CA21		.000	-18.000	55.000	YREF 43.5974
78	78	CA21		.000	-18.000	55.000	YREF 43.5974
79	79	CA21		.000	-18.000	55.000	YREF 43.5974
80	80	CA21		.000	-18.000	55.000	YREF 43.5974
81	81	CA21		.000	-18.000	55.000	YREF 43.5974
82	82	CA21		.000	-18.000	55.000	YREF 43.5974
83	83	CA21		.000	-18.000	55.000	YREF 43.5974
84	84	CA21		.000	-18.000	55.000	YREF 43.5974
85	85	CA21		.000	-18.000	55.000	YREF 43.5974
86	86	CA21		.000	-18.000	55.000	YREF 43.5974
87	87	CA21		.000	-18.000	55.000	YREF 43.5974
88	88	CA21		.000	-18.000	55.000	YREF 43.5974
89	89	CA21		.000	-18.000	55.000	YREF 43.5974
90	90	CA21		.000	-18.000	55.000	YREF 43.5974
91	91	CA21		.000	-18.000	55.000	YREF 43.5974
92	92	CA21		.000	-18.000	55.000	YREF 43.5974
93	93	CA21		.000	-18.000	55.000	YREF 43.5974
94	94	CA21		.000	-18.000	55.000	YREF 43.5974
95	95	CA21		.000	-18.000	55.000	YREF 43.5974
96	96	CA21		.000	-18.000	55.000	YREF 43.5974
97	97	CA21		.000	-18.000	55.000	YREF 43.5974
98	98	CA21		.000	-18.000	55.000	YREF 43.5974
99	99	CA21		.000	-18.000	55.000	YREF 43.5974
100	100	CA21		.000	-18.000	55.000	YREF 43.5974

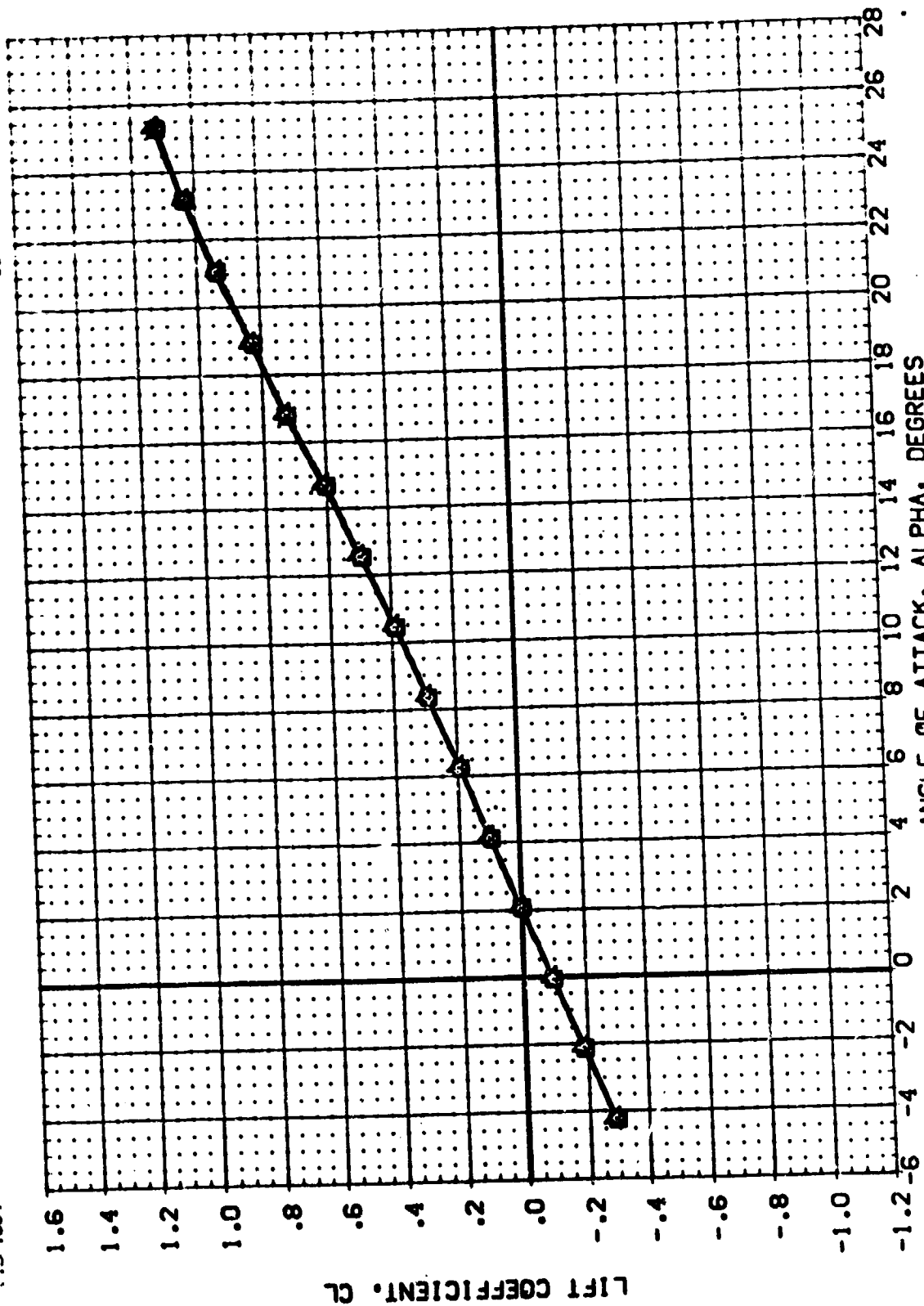


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		CANARD		ELEVON		BOFLAP		SPDBRK		REFERENCE INFORMATION	
(DP111)	DA21	B17C7	HQMIFS	V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF	4.4119	50.000	INCHES	
(DP110)	DA21	B17C7	HQMIFS	V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF	19.2259	INCHES		
(DP107)	DA21	B17C7	HQMIFS	V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF	37.5359	INCHES		
(DP108)	DA21	B17C7	HQMIFS	V107E23V7R6X9	20.000	.000	-18.000	55.000	YMRP	43.5574	INCHES		
(DP109)	DA21	B17C7	HQMIFS	V107E23V7R6X9					ZMRP	16.2000	INCHES		
									SCALE	.0405			

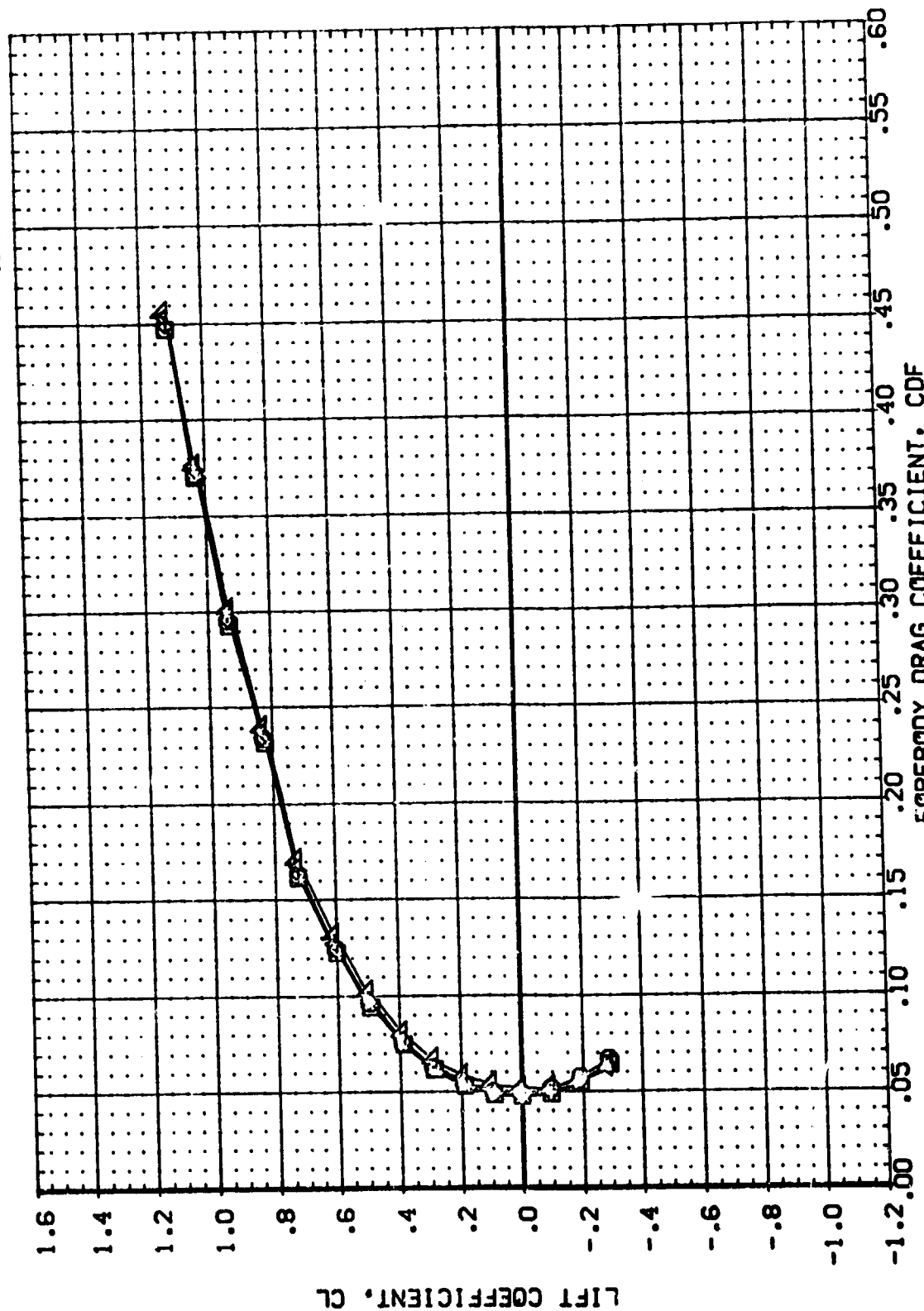


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(ID111)	DA21 B17C7 H2M4FS V107E23V7R6X3	-20.000	.000	-18.000	55.000	SREF 4.4119 SO.FT. INCHES
(ID110)	DA21 B17C7 H2M4FS V107E23V7R6X3	-10.000	.000	-18.000	55.000	LREF 19.2259 INCHES
(ID107)	DA21 B17C7 H2M4FS V107E23V7R6X3	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(ID108)	DA21 B17C7 H2M4FS V107E23V7R6X3	10.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
(ID109)	DA21 B17C7 H2M4FS V107E23V7R6X3	20.000	.000	-18.000	55.000	YMRP 16.2000 INCHES
						ZMRP .0405 INCHES
						SCALE

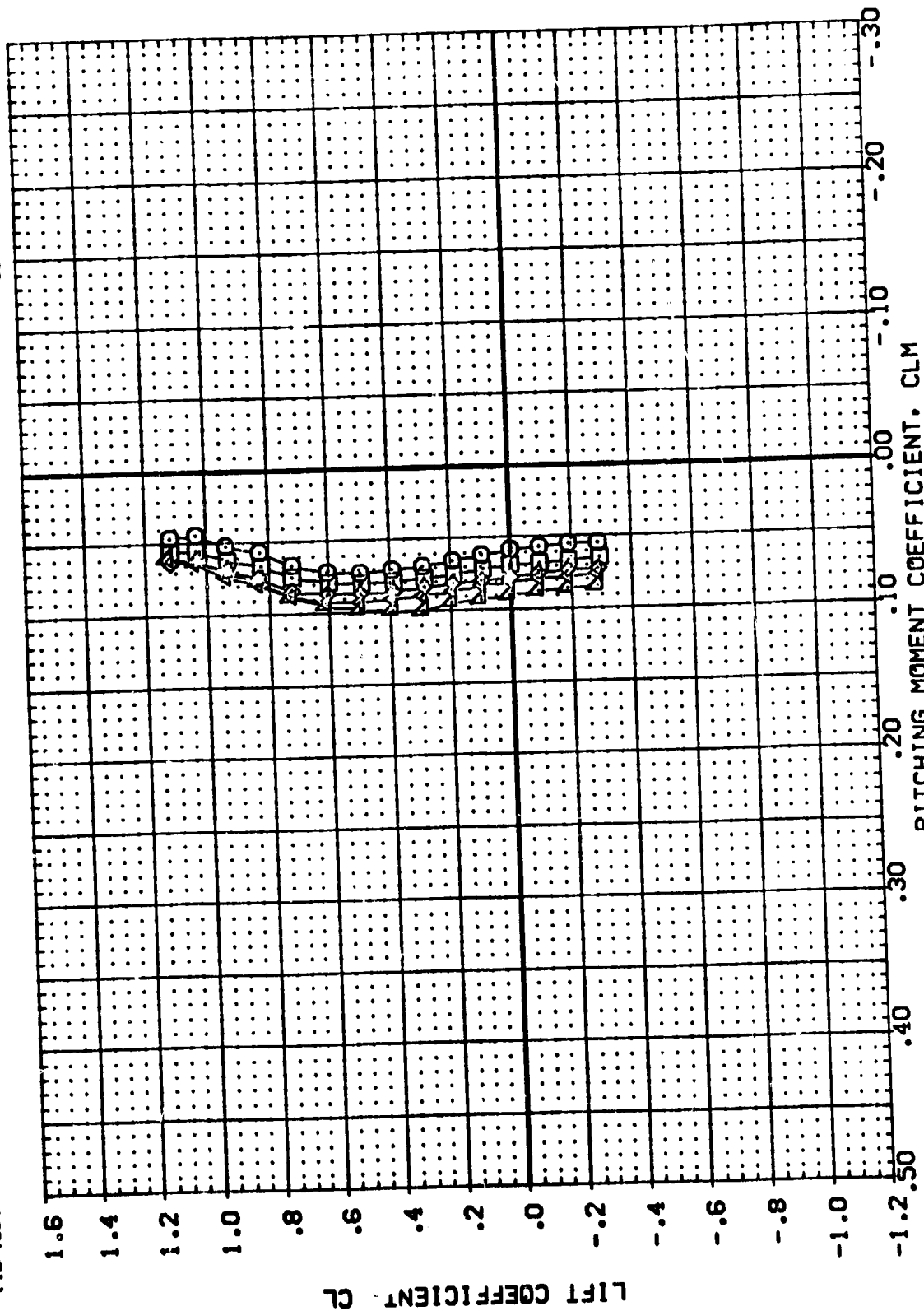


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP111]	0A21 B17C7 H2M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
[DP110]	0A21 B17C7 H2M4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2298 INCHES
[DP107]	0A21 B17C7 H2M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9353 INCHES
[DP108]	0A21 B17C7 H2M4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	XREF 43.5974 INCHES
[DP109]	0A21 B17C7 H2M4FS V107E23V7R6X9		.000	-18.000	55.000	YREF .0000 INCHES
			.000	-18.000	55.000	ZREF 16.2000 INCHES
						SCALE .0405

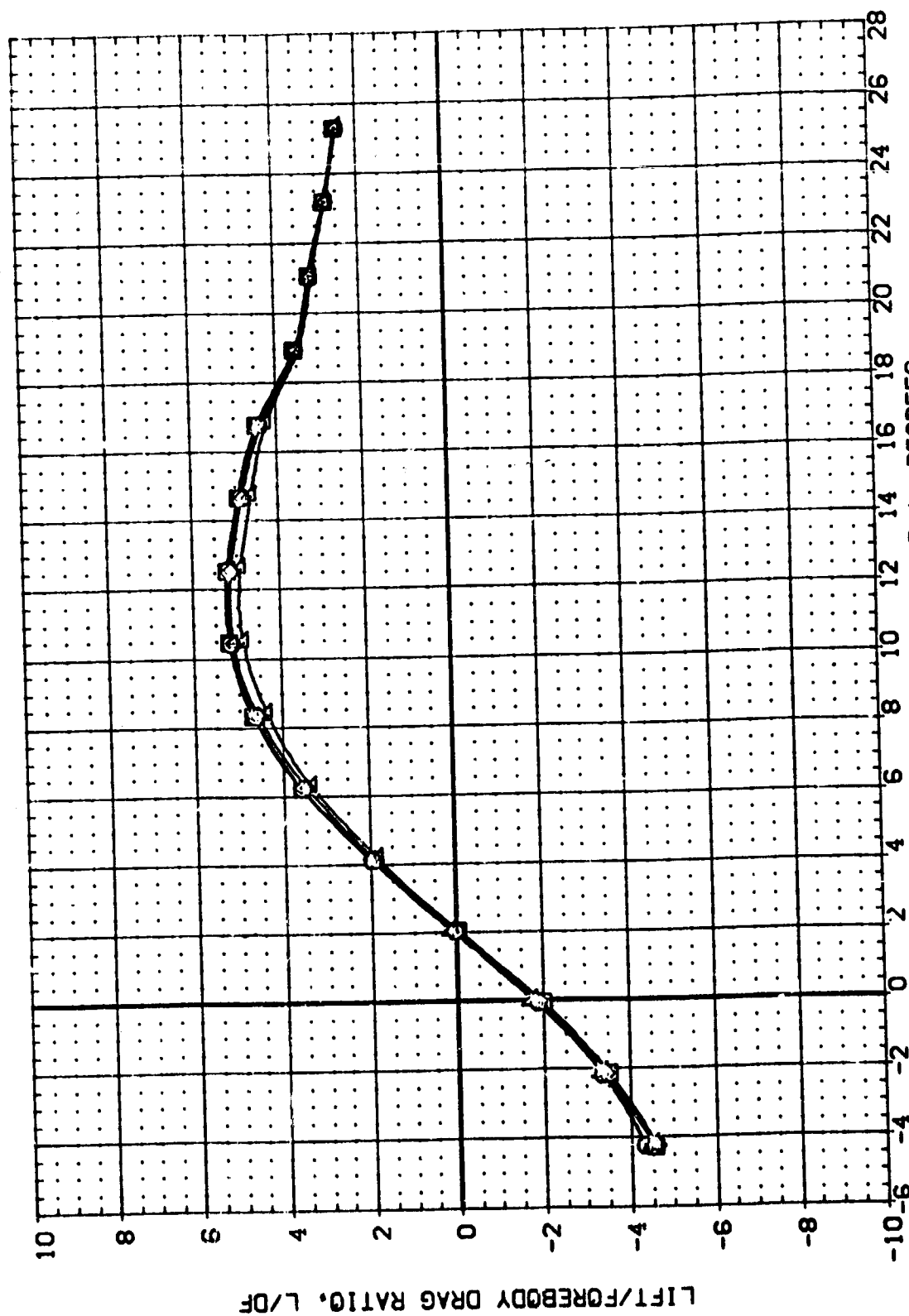


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(M)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(IDP111)	0A21 B17C7 K2M4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 50.FT.
(IDP110)	0A21 B17C7 K2M4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(IDP107)	0A21 B17C7 K2M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(IDP108)	0A21 B17C7 K2M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
(IDP109)	0A21 B17C7 K2M4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	ZMRP 16.2000 INCHES
						SCALE .0405

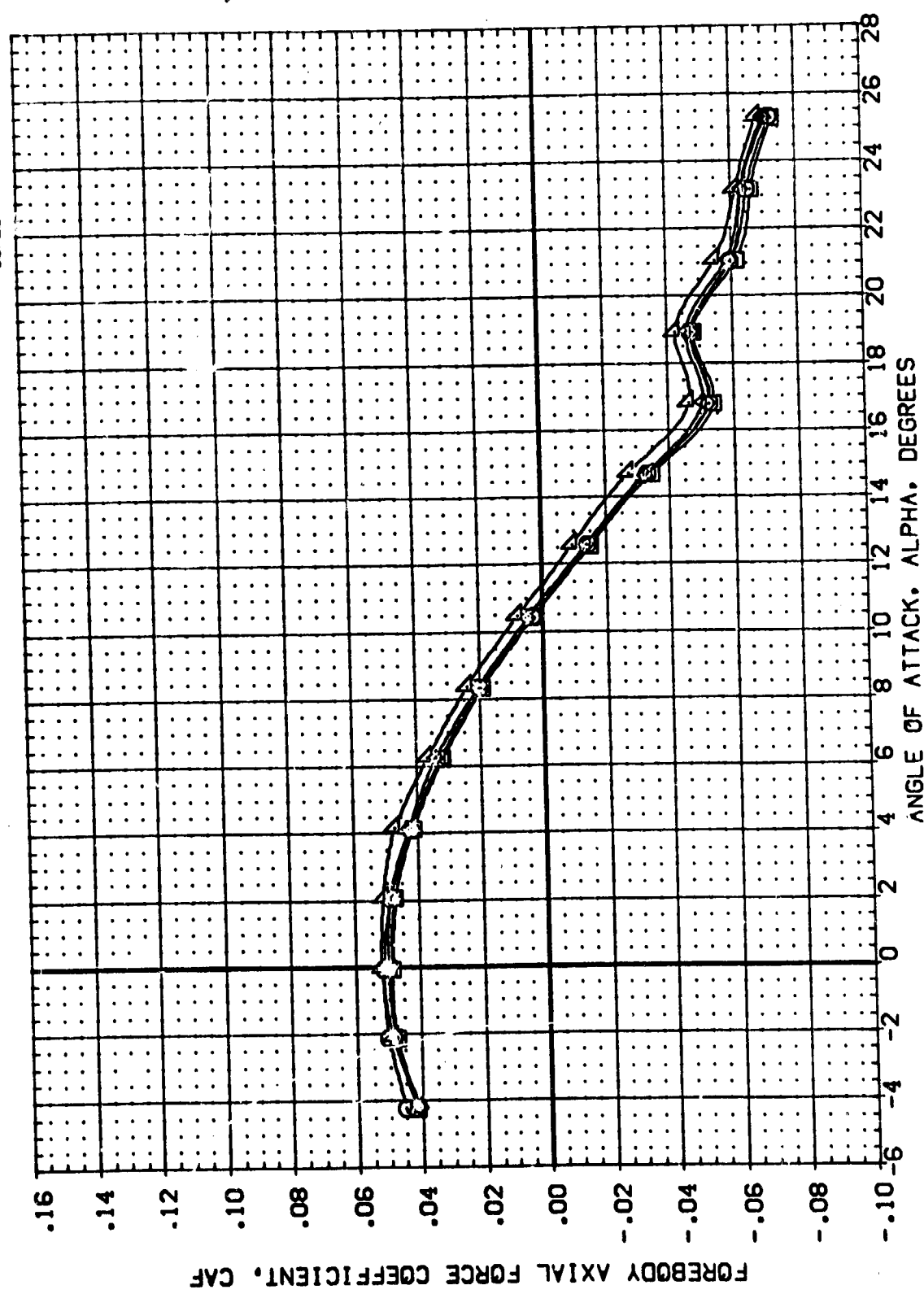


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(IDP111)	0A21 B17C7 H2M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(IDP110)	0A21 B17C7 H2M4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2259 INCHES
(IDP107)	0A21 B17C7 H2M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(IDP108)	0A21 B17C7 H2M4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	XREF 43.5974 INCHES
(IDP109)	0A21 B17C7 H2M4FS V107E23V7R6X9		.000	-13.000	55.000	YREF 16.0000 INCHES
						ZREF 16.0000 INCHES
						SCALE .0405

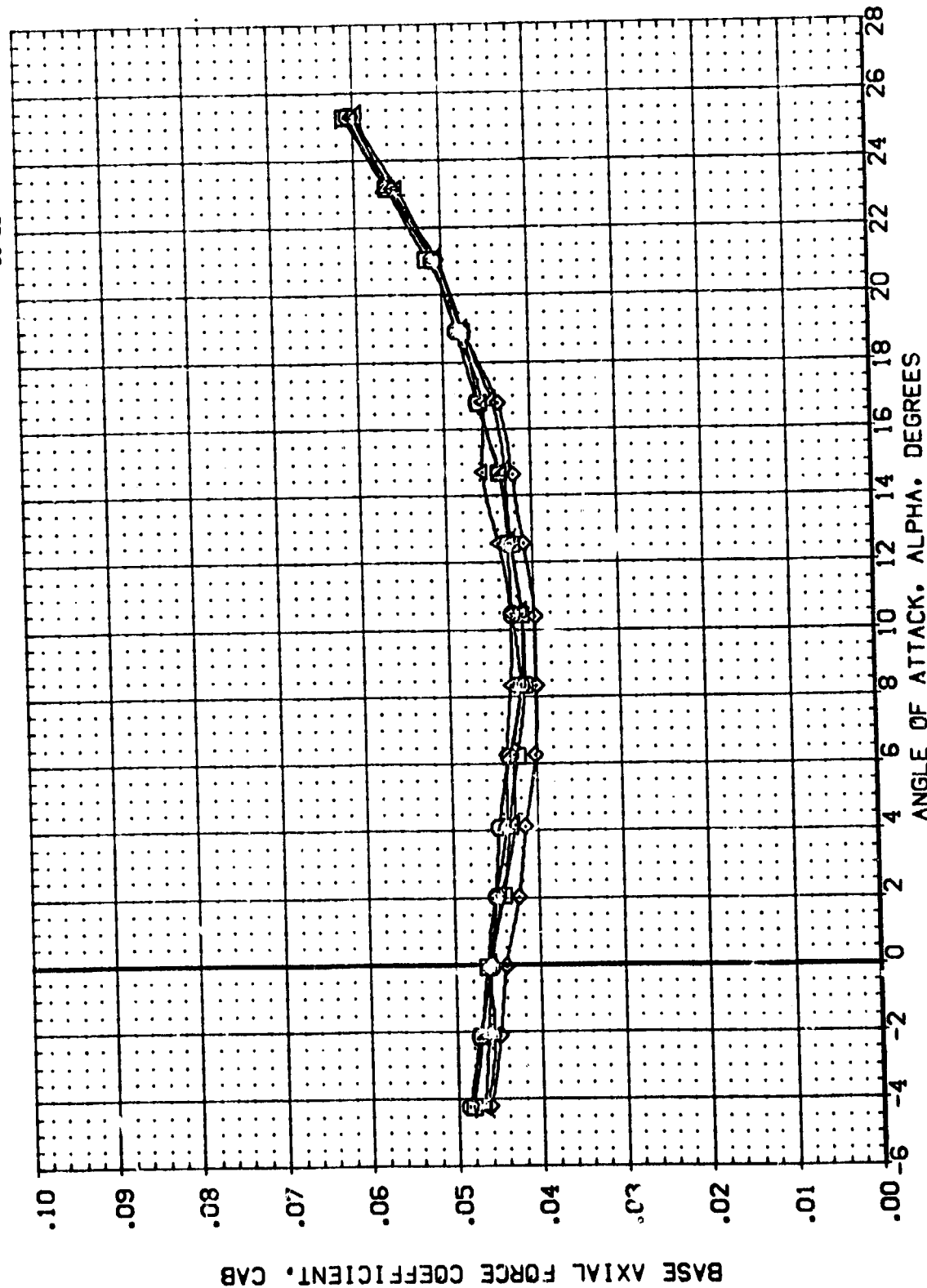


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
[DP111]	0A21 B17C7 KQM4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
[DP110]	0A21 B17C7 KQM4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2289 INCHES
[DP107]	0A21 B17C7 KQM4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.5359 INCHES
[DP108]	0A21 B17C7 KQM4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
[DP109]	0A21 B17C7 KQM4F5 V107E23V7R6X9		.000	-18.000	55.000	YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

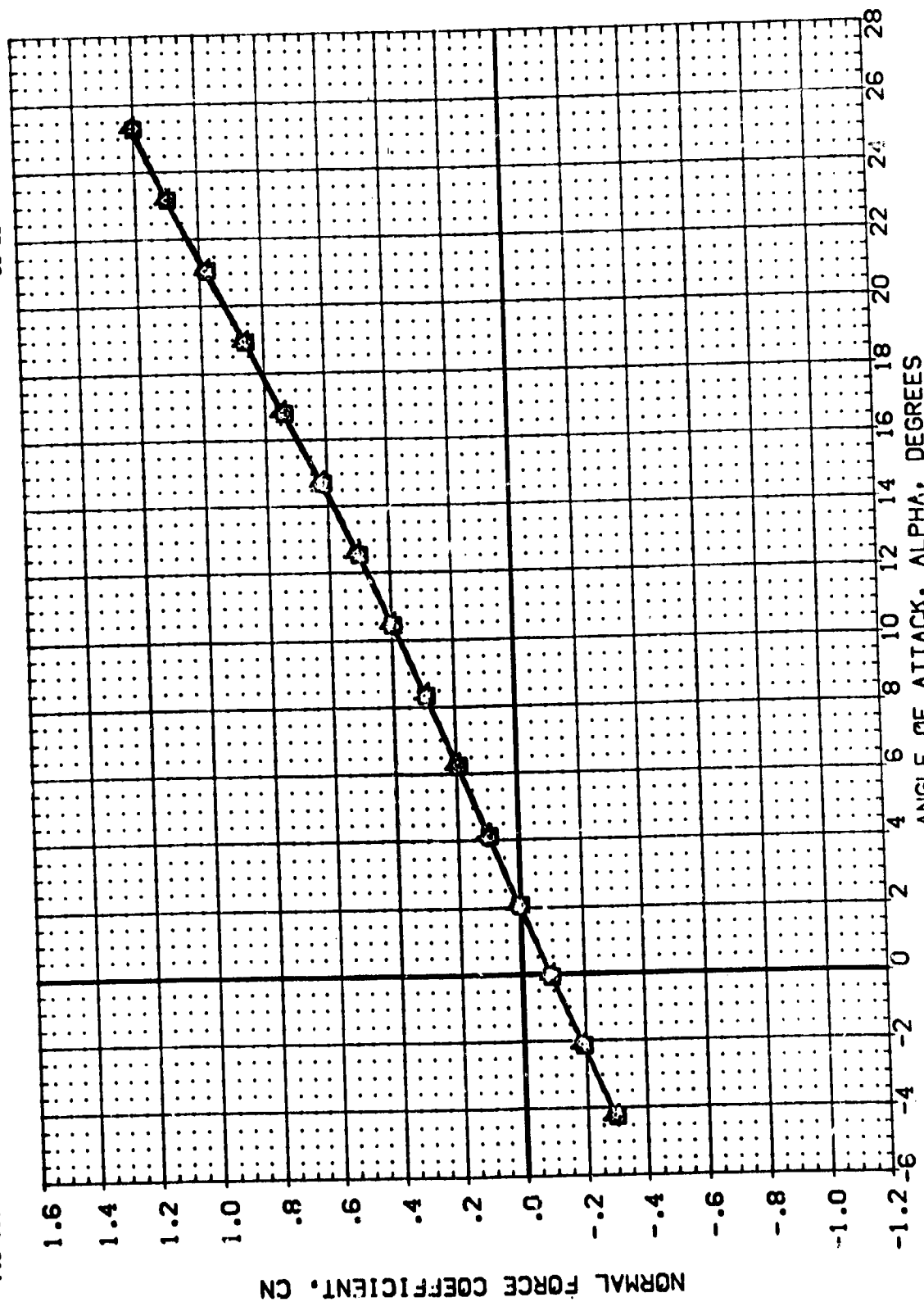


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(10111)	DA21	817C7 H2MFS	-20.000	.000	-18.000	55.000	SREF 4.4119 50. FT.
(10110)	DA21	817C7 H2MFS	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(10107)	DA21	817C7 H2MFS	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(10108)	DA21	817C7 H2MFS	20.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
(10109)	DA21	817C7 H2MFS					YMRP .0000 INCHES
							ZMRP 16.2000 INCHES
							SCALE .0405 INCHES

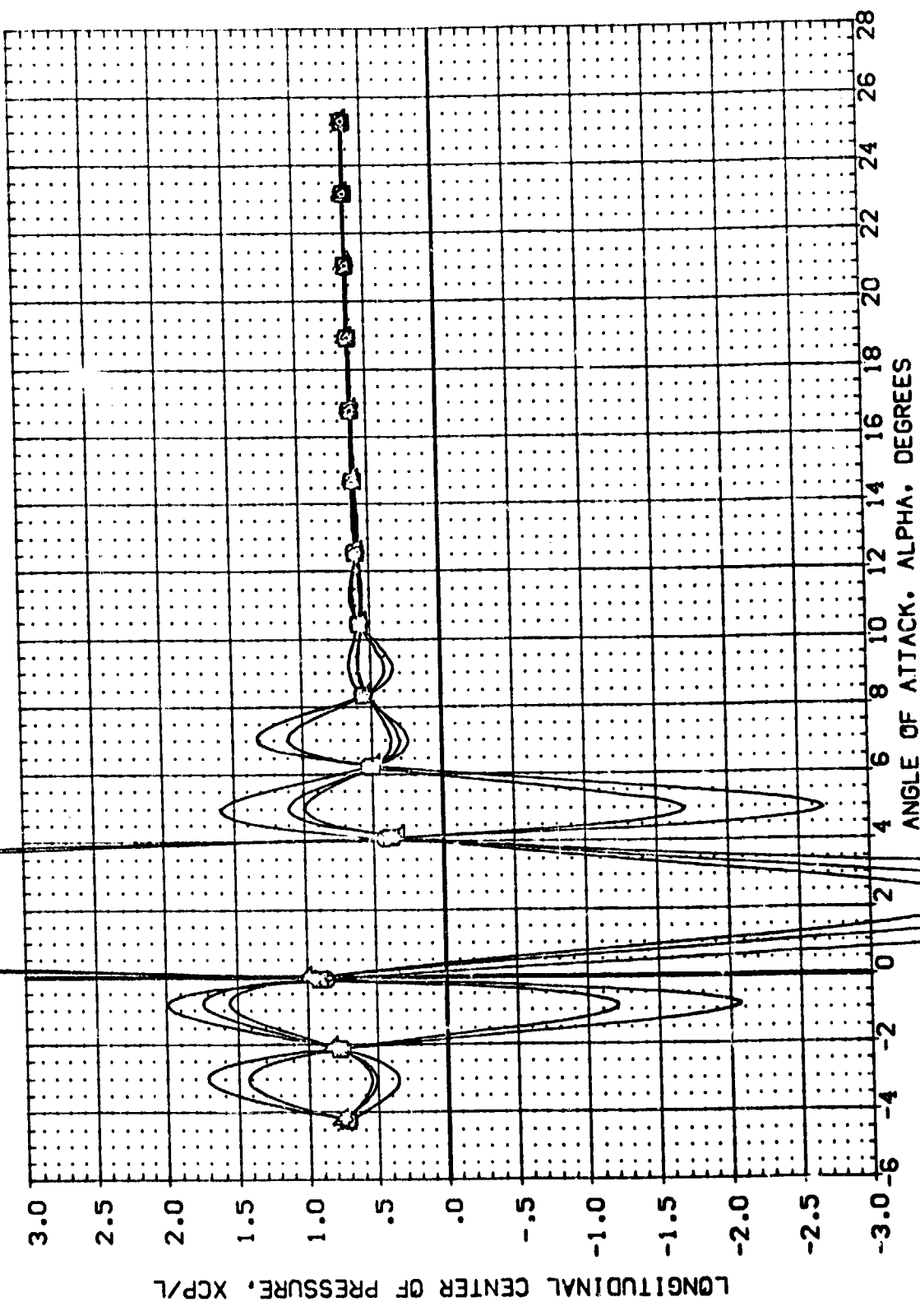
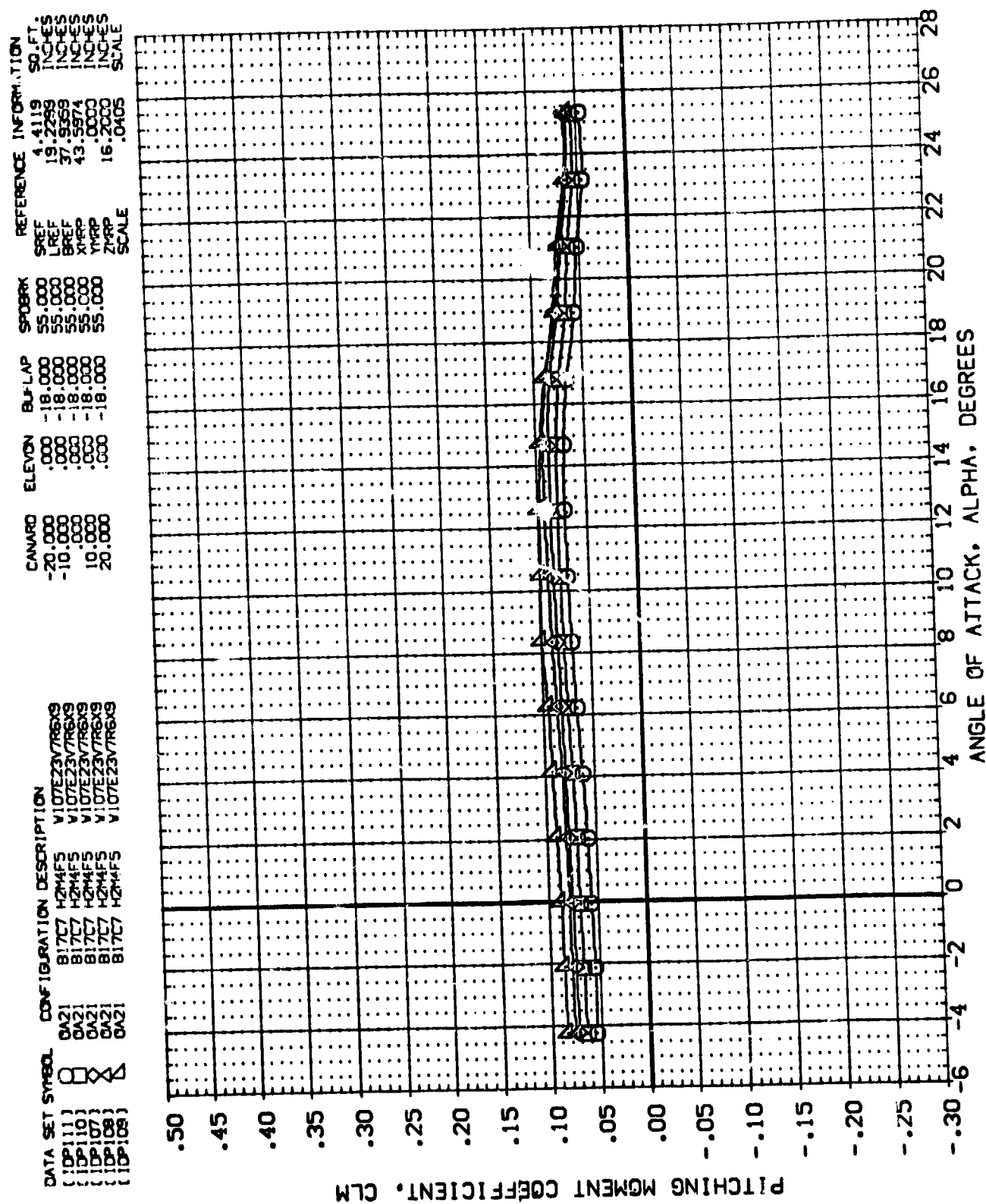


FIGURE 36 LONGITUDINAL EFFECTS OF H2 CANARD INCIDENCE

(M)MACH = .26


$$(A)_{MACH} = .26$$

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(DP116)	□	0A21 B17C7 H344FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 50.17
(DP115)	□	0A21 B17C7 H344FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2259 10.00
(DP112)	□	0A21 B17C7 H344FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 10.00
(DP113)	□	0A21 B17C7 H344FS V107E23V7R6X9	10.000	.000	-18.000	55.000	XMRP 43.5974 10.00
(DP114)	□	0A21 B17C7 H344FS V107E23V7R6X9	20.000	.000	-18.000	55.000	ZMRP 16.2000 10.00
							SCALE .0405

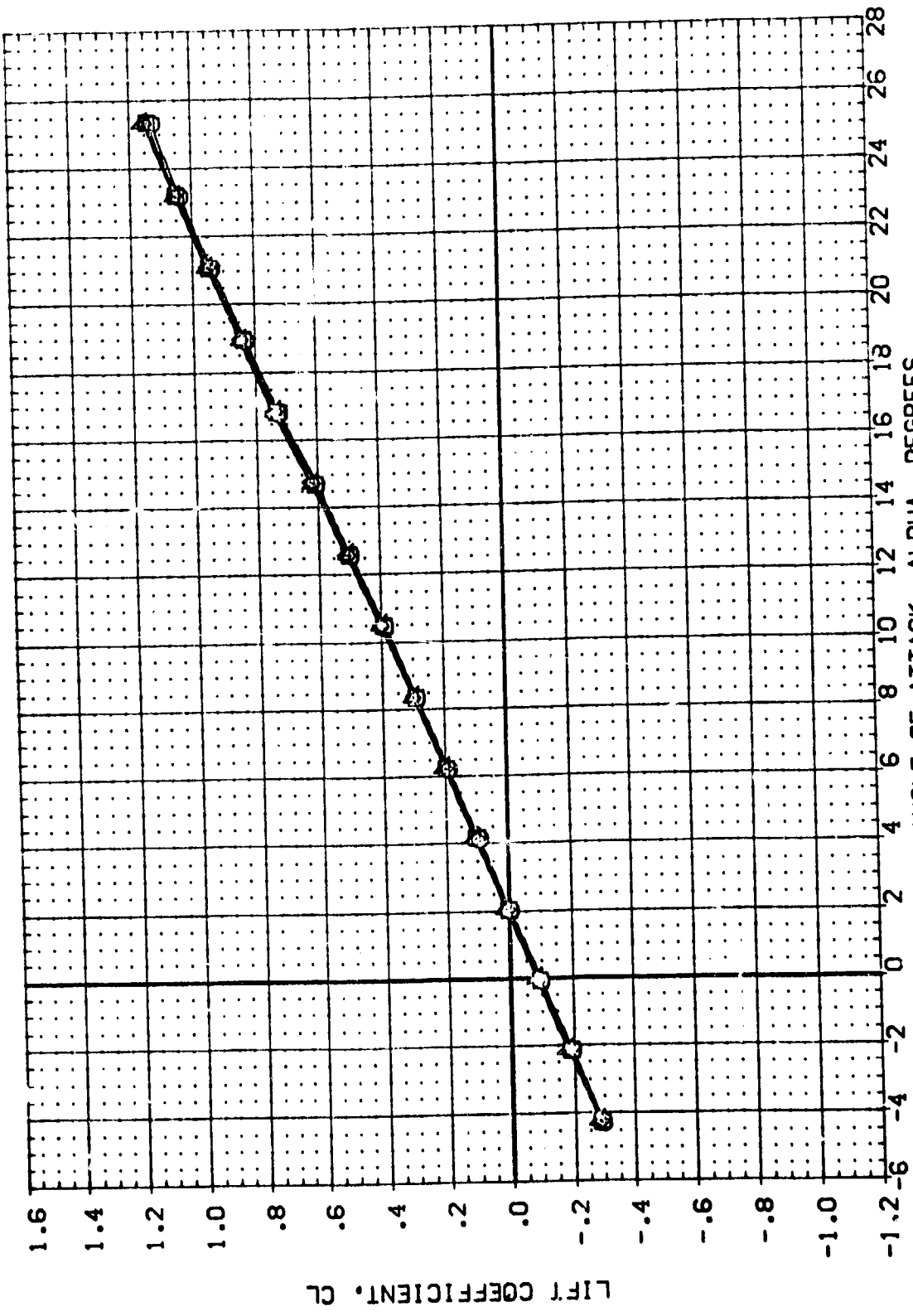


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
DA21	□	B17C7 H344FS	-20.000	.000	-18.000	55.000	SREF 4.4119
DP116	□	B17C7 H344FS	-10.000	.000	-18.000	55.000	LREF 19.2299
DP115	□	B17C7 H344FS	10.000	.000	-18.000	55.000	BREF 37.5359
DP112	□	B17C7 H344FS	20.000	.000	-18.000	55.000	XMRP 43.5574
DP113	□	B17C7 H344FS		.000	-18.000	55.000	YMRP .0000
DP114	□	B17C7 H344FS		.000	-18.000	55.000	ZMRP 16.2000
							SCALE .0405

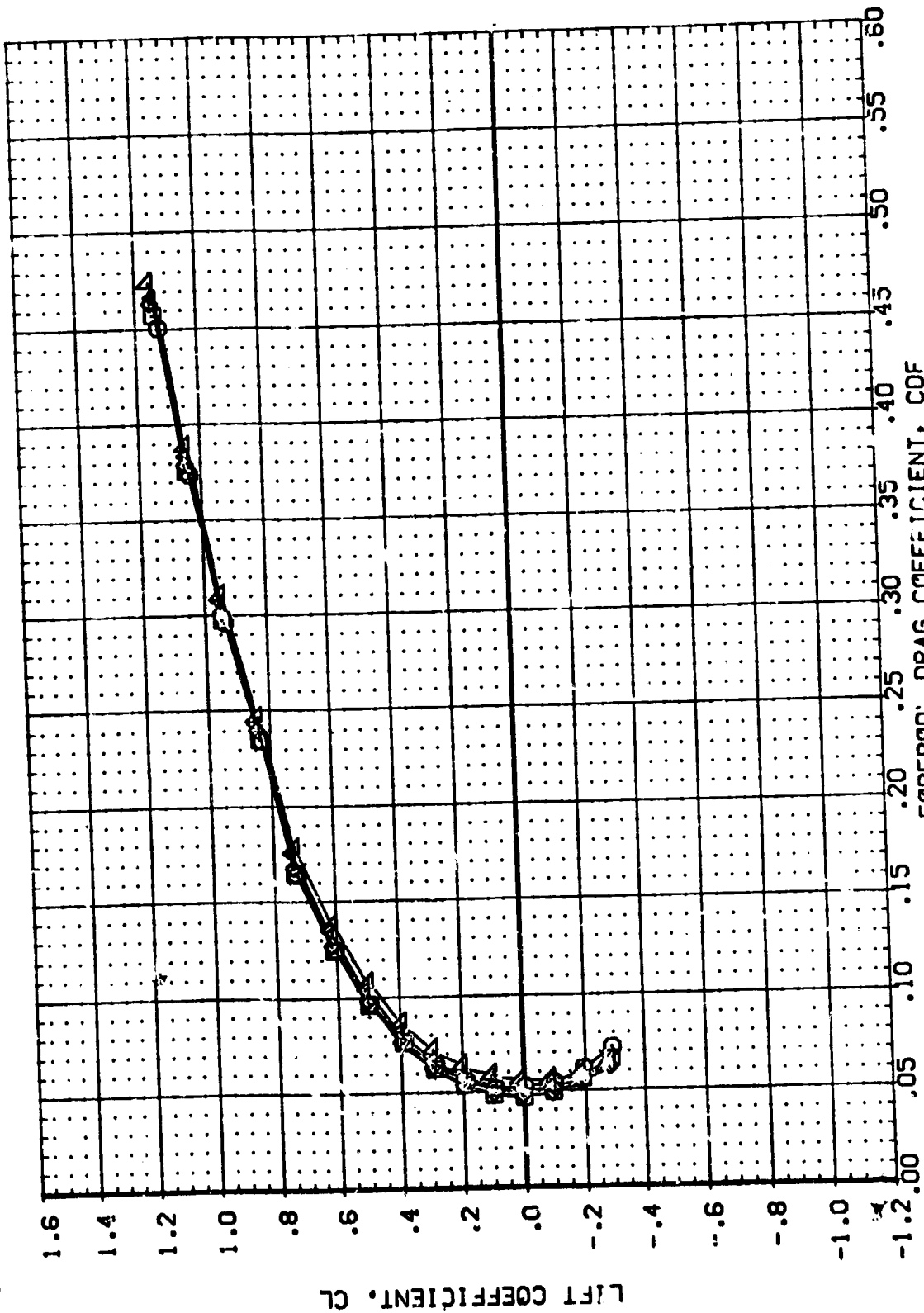


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOILER	REFERENCE INFORMATION
(IDP116)	0A21 B17C7 H3M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(IDP115)	0A21 B17C7 H3M4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.7259 INCHES
(IDP112)	0A21 B17C7 H3M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(IDP113)	0A21 B17C7 H3M4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	XREF 43.5974 INCHES
(IDP114)	0A21 B17C7 H3M4FS V107E23V7R6X9					YREF 16.2000 INCHES
						ZREF .0409 INCHES
						SCALE

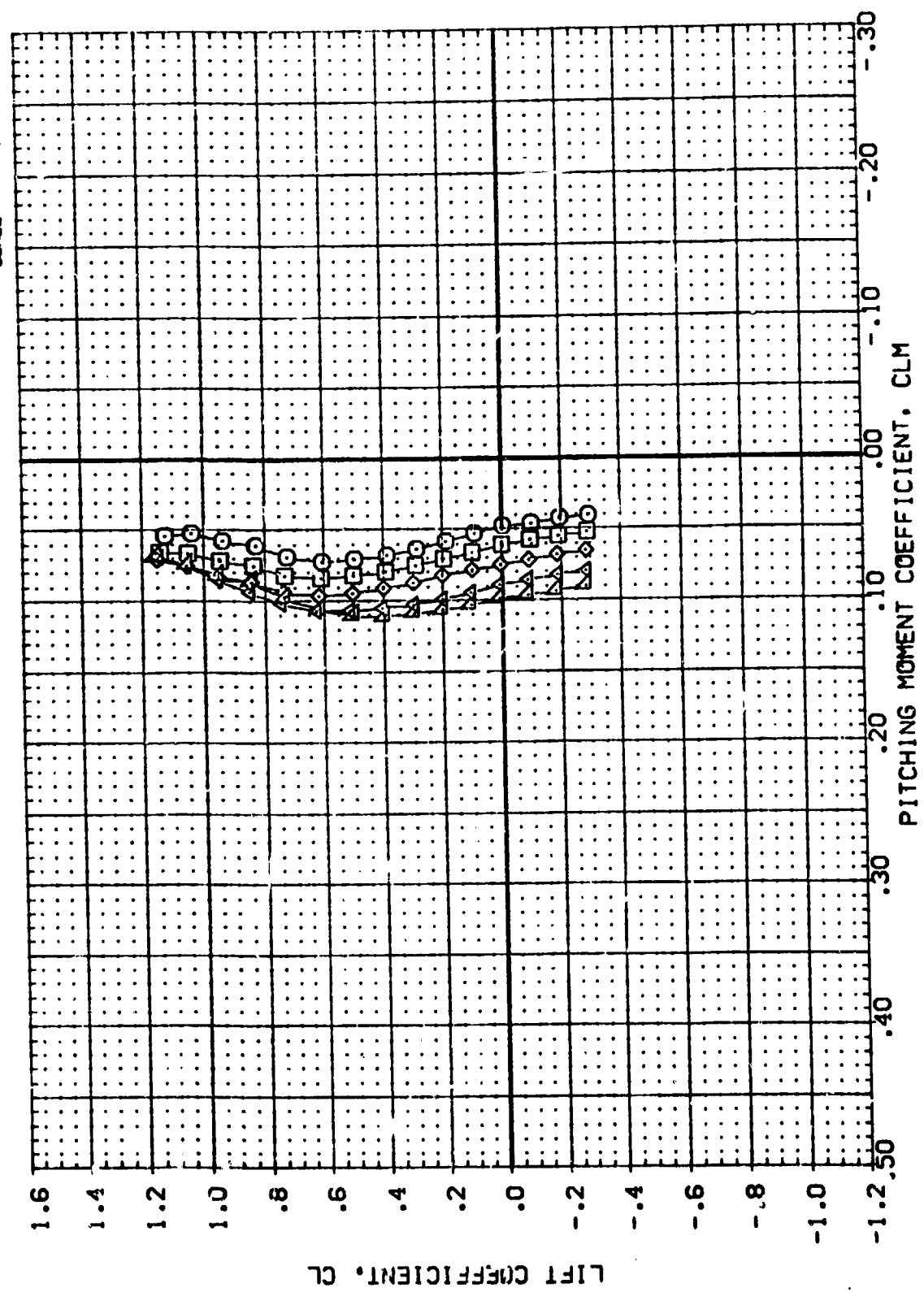


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONF:GURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(DP1116)	0A21 B17C7 H3M4FS V107E23V/7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP1115)	0A21 B17C7 H3M4FS V107E23V/7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2298 INCHES
(DP1112)	0A21 B17C7 H3M4FS V107E23V/7R6X9	.000	.000	-18.000	55.000	BREF 37.5359 INCHES
(DP1113)	0A21 B17C7 H3M4FS V107E23V/7R6X9	10.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
(DP1114)	0A21 B17C7 H3M4FS V107E23V/7R6X9	20.000	.000	-18.000	55.000	YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

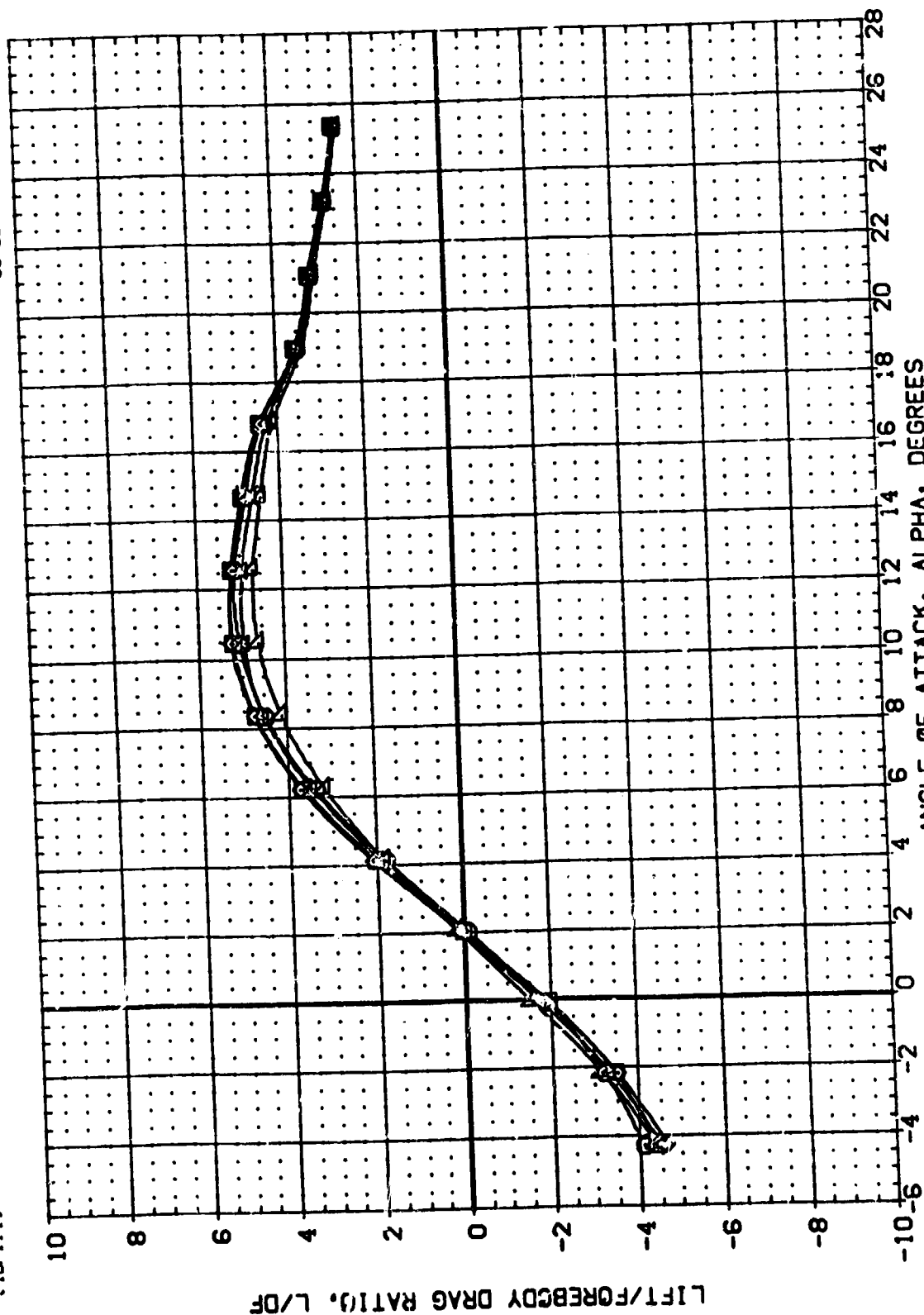


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A) MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SFDJRK	REFERENCE INFORMATION	
(DP116)	DA21 B17C7 H3M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF	4.4119 SQ.FT.
(DP115)	DA21 B17C7 H3M4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF	19.2289 INCHES
(DP112)	DA21 B17C7 H3M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF	37.9389 INCHES
(DP113)	DA21 B17C7 H3M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	XREF	43.5874 INCHES
(DP114)	DA21 B17C7 H3M4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	YREF	50.000 INCHES
						ZREF	16.2000 INCHES
						SCALE	.0405 INCHES

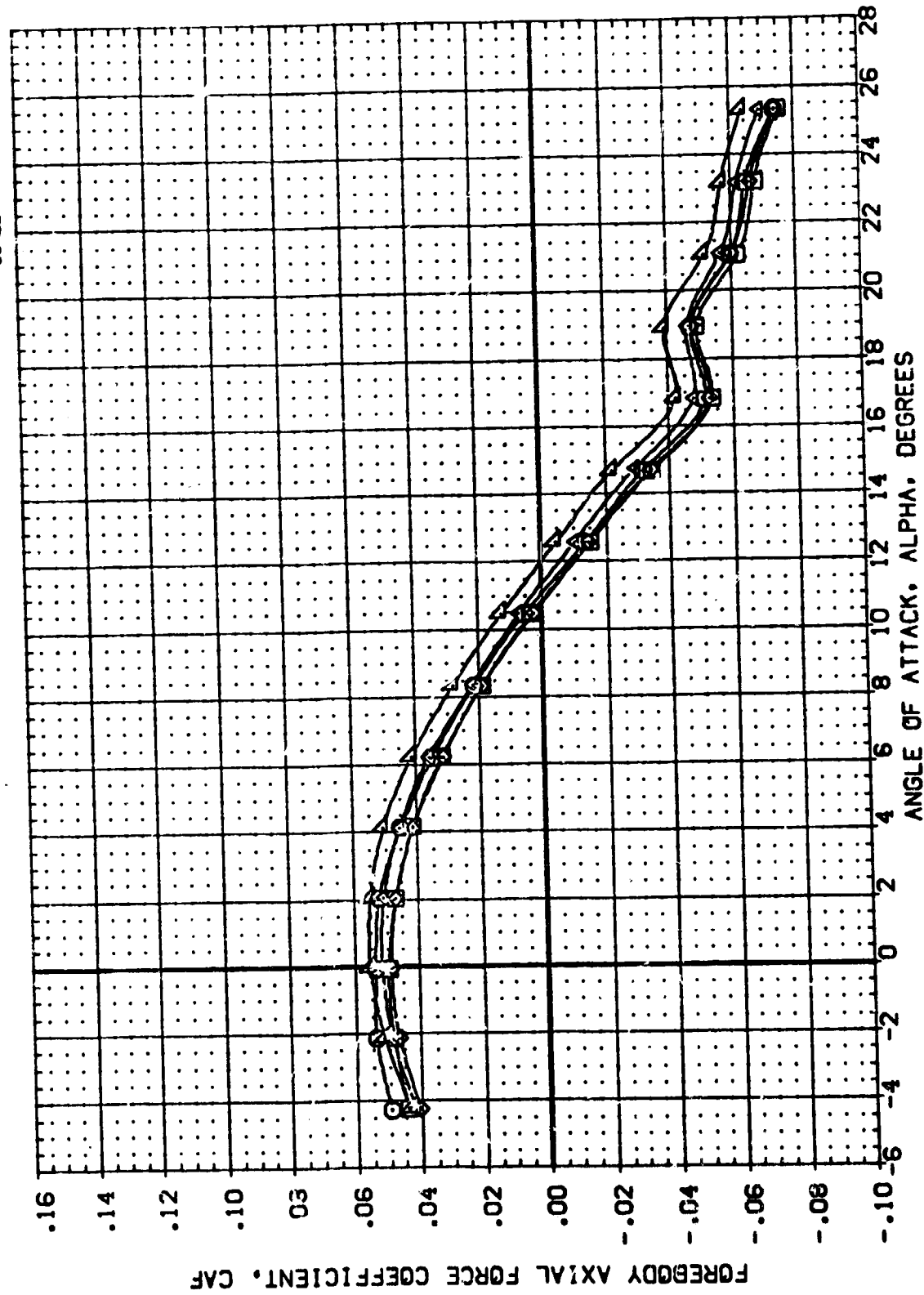


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRK	REFERENCE INFORMATION
(IDP116)	CA21 817C7 KGMFS V107E23V7RGX9	-20.000	.000	-18.000	55.000	SREF 1.4119 SQ.FT.
(IDP115)	CA21 817C7 KGMFS V107E23V7RGX9	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(IDP112)	CA21 817C7 KGMFS V107E23V7RGX9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(IDP113)	CA21 817C7 KGMFS V107E23V7RGX9	20.000	.000	-18.000	55.000	XREF 43.5974 INCHES
(IDP114)	CA21 817C7 KGMFS V107E23V7RGX9					YREF 16.2000 INCHES
						ZREF .0405 INCHES
						SCALE

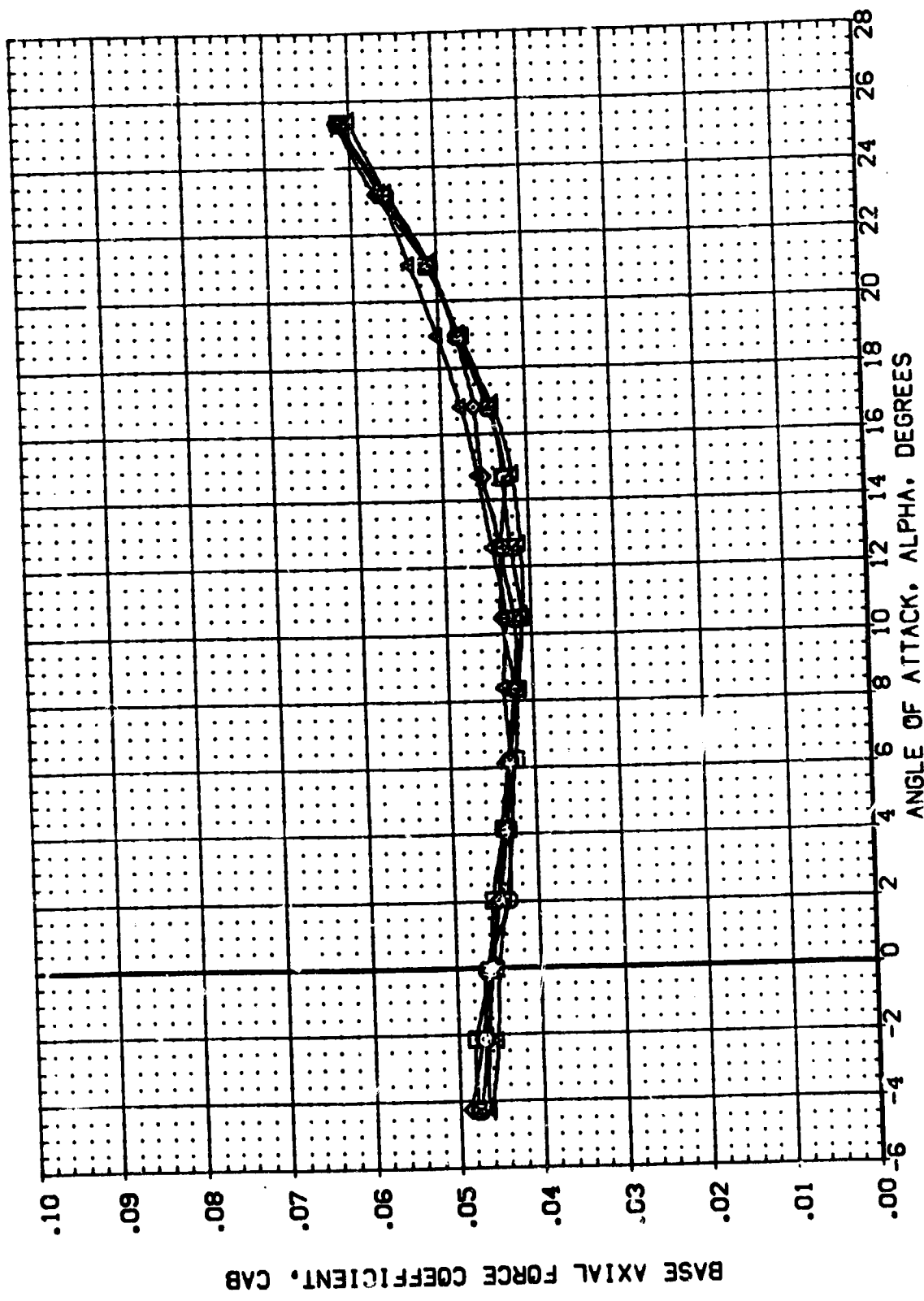


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(DP116)	0A21 817C7 H3MFS V107E23V7R6X9	-20.000	.000	-18.000	55.000	4.4119 50.000
(DP115)	0A21 817C7 H3MFS V107E23V7R6X9	-10.000	.000	-18.000	55.000	19.2259 10.000
(DP112)	0A21 817C7 H3MFS V107E23V7R6X9	.000	.000	-18.000	55.000	37.9359 10.000
(DP113)	0A21 817C7 H3MFS V107E23V7R6X9	10.000	.000	-18.000	55.000	43.9974 10.000
(DP114)	0A21 817C7 H3MFS V107E23V7R6X9					16.2000 10.000
						SCALE .0405

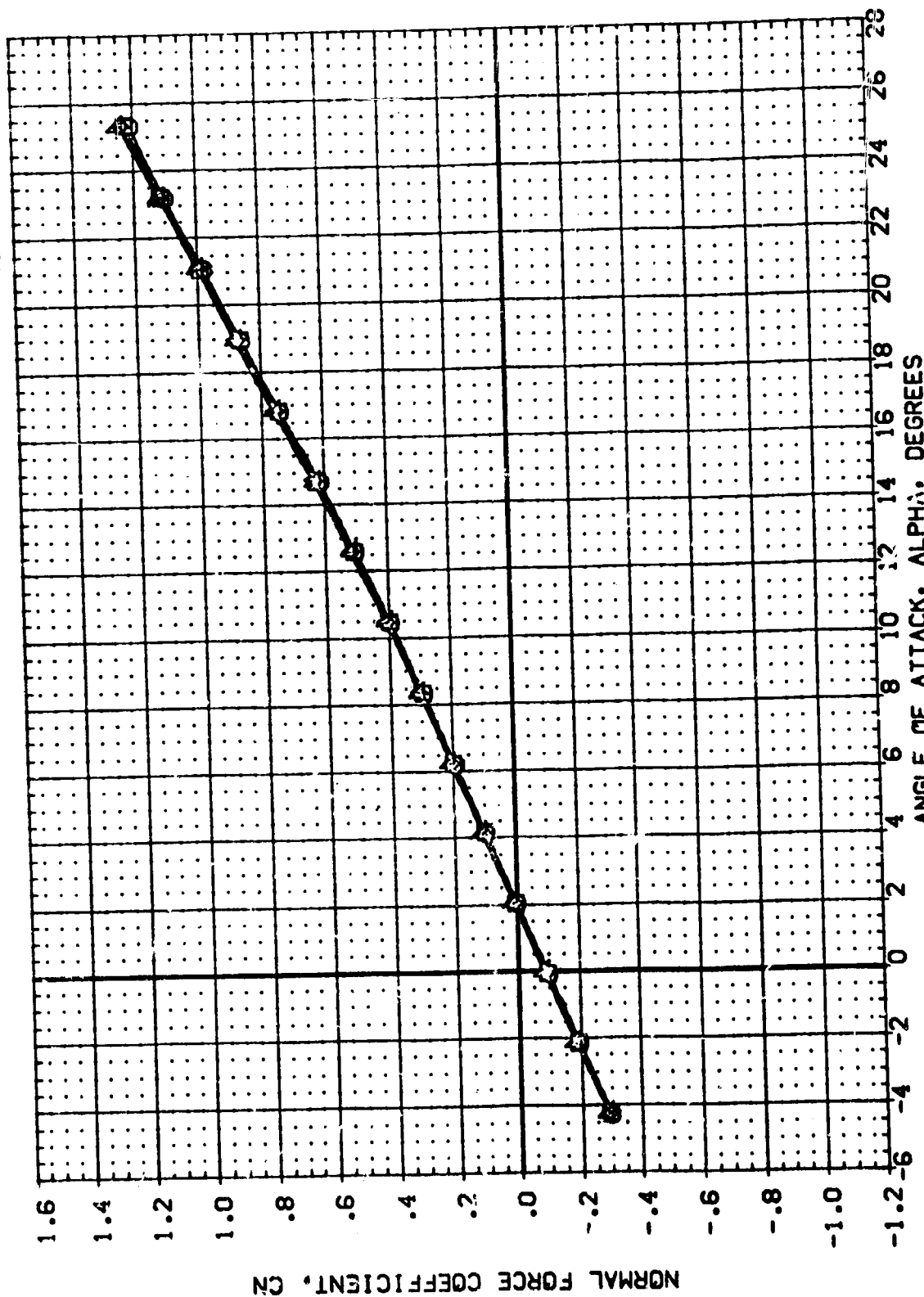


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A)MACH = .25

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(IDP116)	DA21 B17C7 H3M4FS V107E23/7R6X9
(IDP115)	DA21 B17C7 H3M4FS V107E23/7R6X9
(IDP112)	DA21 B17C7 H3M4FS V107E23/7R6X9
(IDP113)	DA21 B17C7 H3M4FS V107E23/7R6X9
(IDP114)	DA21 B17C7 H3M4FS V107E23/7R6X9

CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
-10.000	.000	-18.000	55.000	I REF 19.2289 INCHES
10.000	.000	-18.000	55.000	BREF 37.3359 INCHES
20.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
				YMRP .0000 INCHES
				ZMRP 16.2000 INCHES
				SCALE .0405

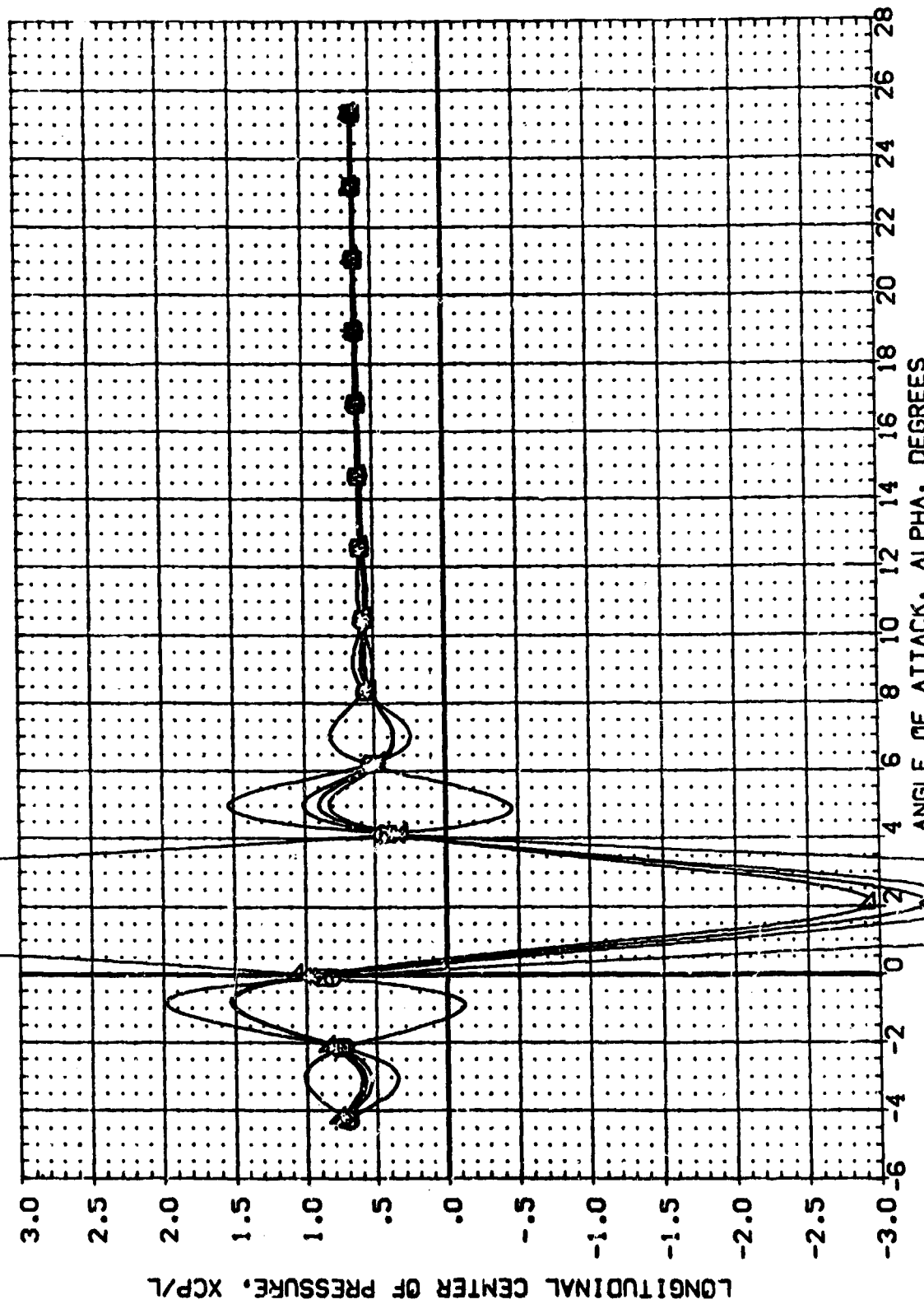


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(M)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBY	REFERENCE INFORMATION
(ID116)	DA21 B17C7 H3-4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	4.4119 50. FT.
(ID115)	DA21 B17C7 H3-4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	19.2289 INCHES
(ID112)	DA21 B17C7 H3-4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	37.9359 INCHES
(ID113)	DA21 B17C7 H3-4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	43.5574 INCHES
(ID114)	DA21 B17C7 H3-4FS V107E23V7R6X9		.000	-18.000	55.000	16.2000 INCHES
						SCALE 10405

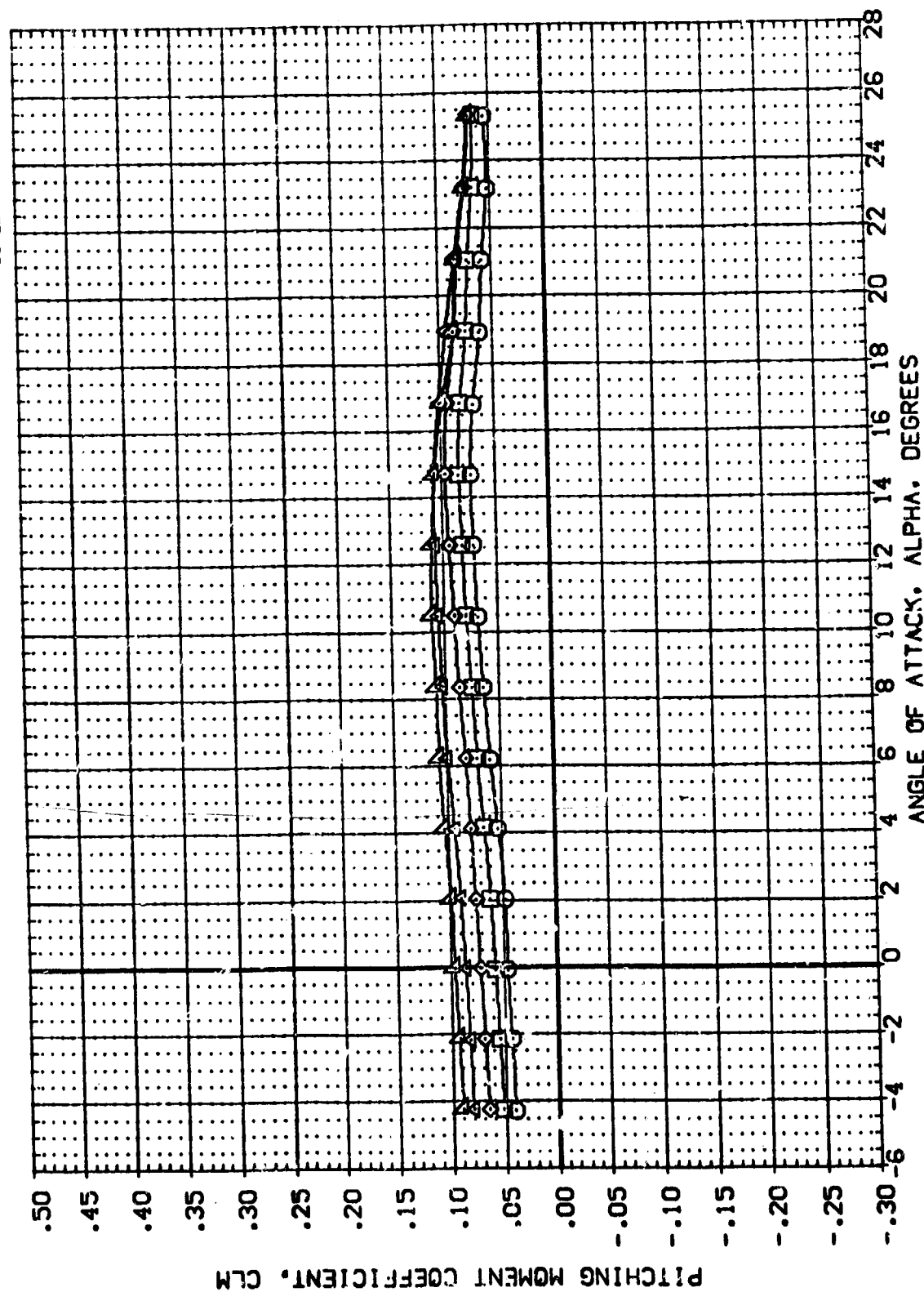


FIGURE 37 LONGITUDINAL EFFECTS OF H3 CANARD INCIDENCE

(A) MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	W/FLAP	SPOBRK	REFERENCE INFORMATION
[DP121]	0A21 817C7 H4MFS	-20.000	.000	-18.000	55.000	SREF 4.4119 50.FT.
[DP120]	0A21 817C7 H4MFS	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
[DP117]	0A21 817C7 H4MFS	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
[DP118]	0A21 817C7 H4MFS	10.000	.000	-18.000	55.000	XREF 43.5974 INCHES
[DP119]	0A21 817C7 H4MFS	20.000	.000	-18.000	55.000	YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

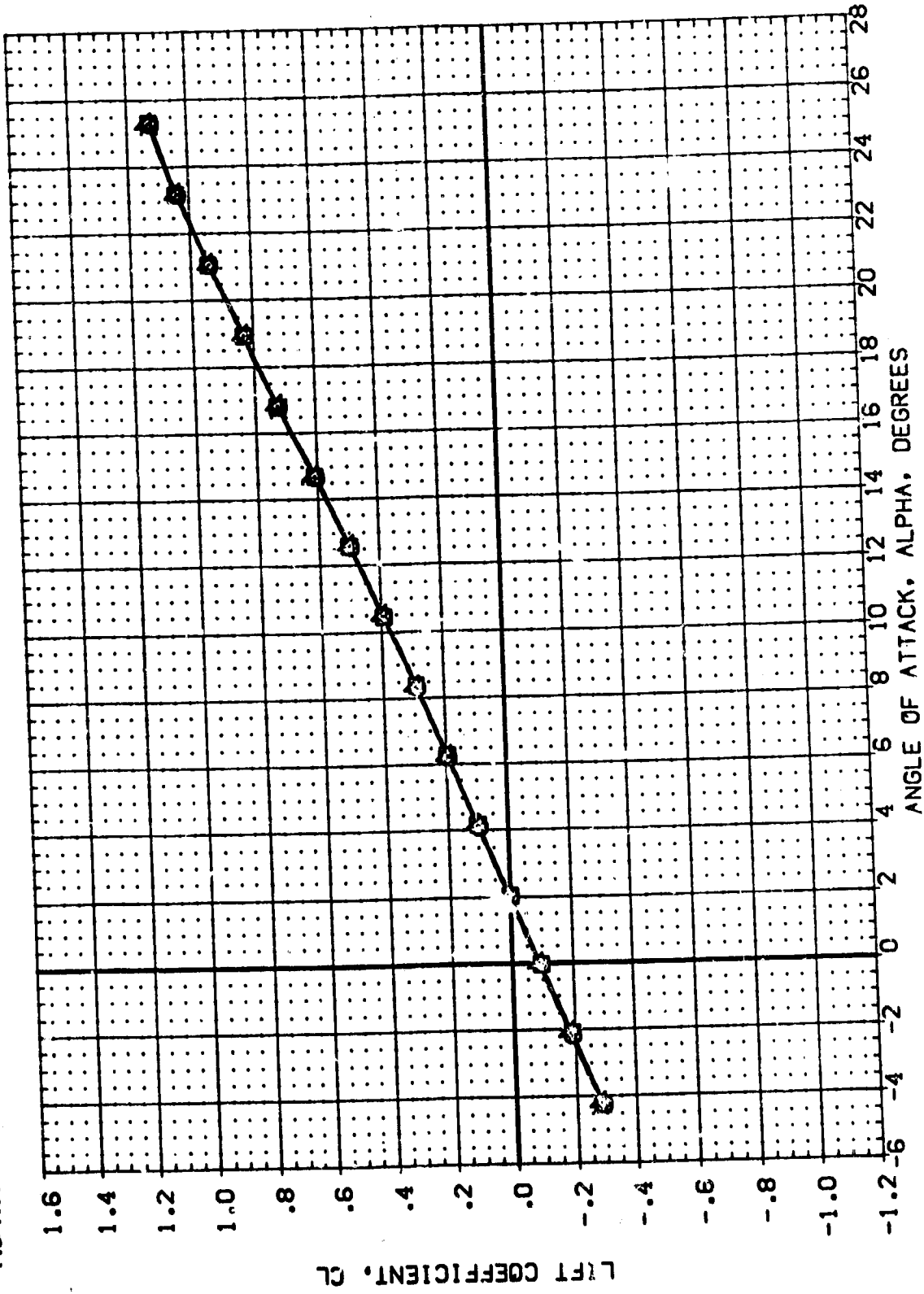


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(IDP121)	DA21 B17C7 HAM4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	4.4119 SQ.FT.
(IDP120)	DA21 B17C7 HAM4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	19.2299 INCHES
(IDP117)	DA21 B17C7 HAM4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	37.9359 INCHES
(IDP118)	DA21 B17C7 HAM4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	43.9974 INCHES
(IDP119)	DA21 B17C7 HAM4FS V107E23V7R6X9					.0000 INCHES
						16.2000 INCHES
						SCALE

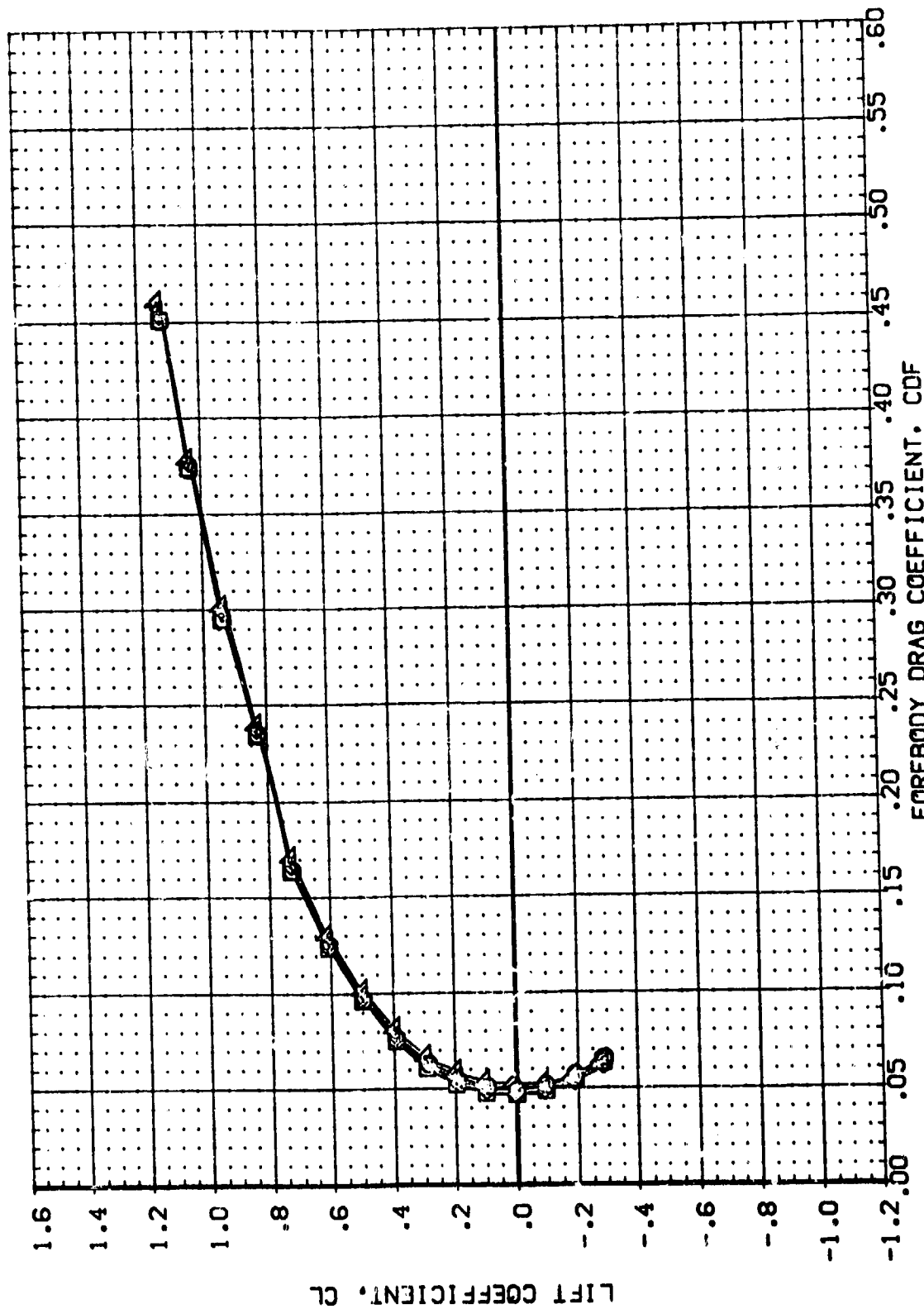


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(ID121)	□	DA21 817C7 H4M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(ID120)	□	DA21 817C7 H4M4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(ID117)	□	DA21 817C7 H4M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(ID116)	□	DA21 817C7 H4M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
(ID119)	□	DA21 817C7 H4M4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	ZMRP 16.2000 INCHES
							SCALE .0405

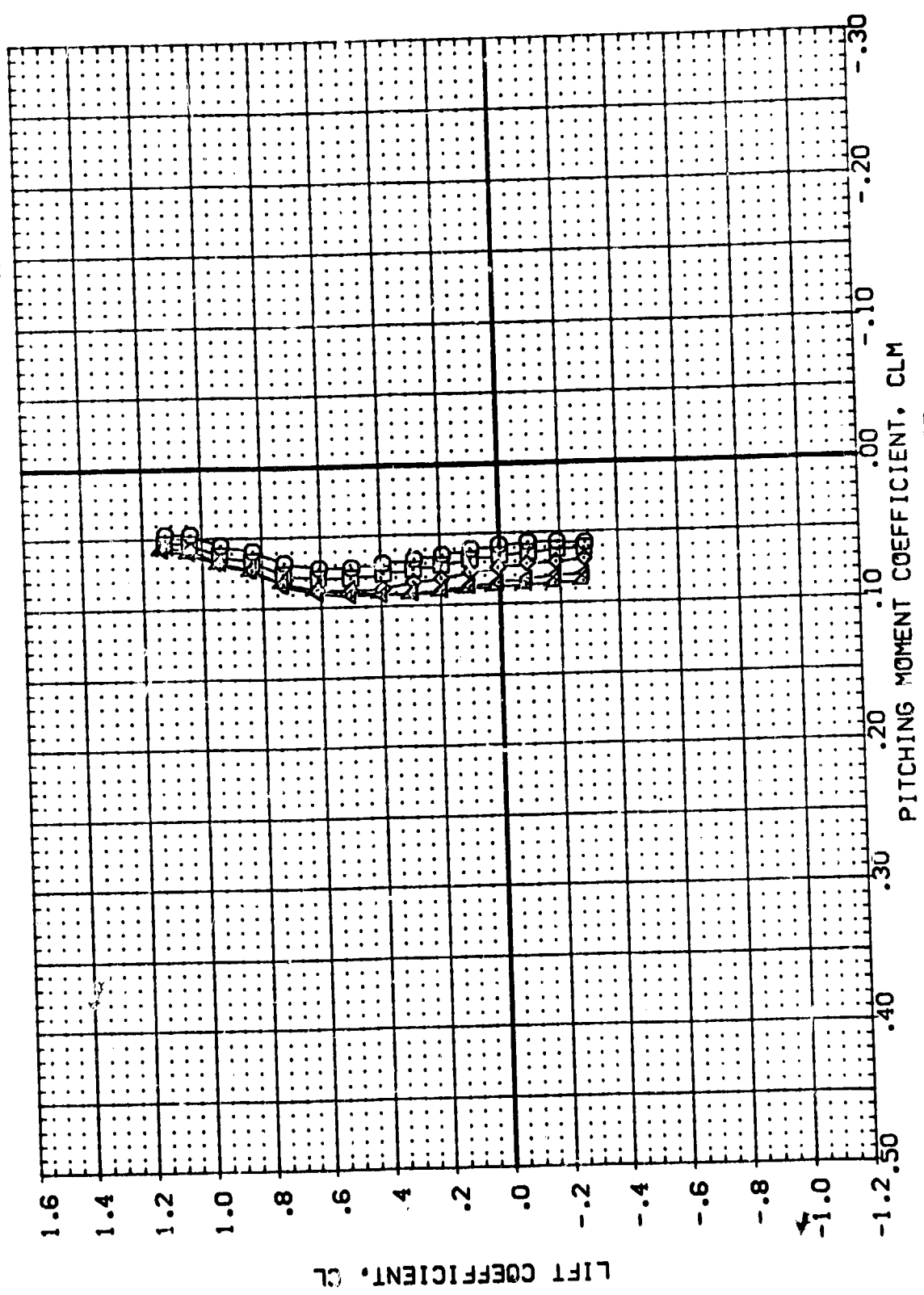


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(IDP121)	QAZ1 B17C7 HAM4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 50.000
(IDP120)	QAZ1 B17C7 HAM4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2259 10.000
(IDP117)	QAZ1 B17C7 HAM4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 10.000
(IDP118)	QAZ1 B17C7 HAM4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	YREF 43.5974 10.000
(IDP119)	QAZ1 B17C7 HAM4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	ZREF 16.2000 10.000
						SCALE .0405

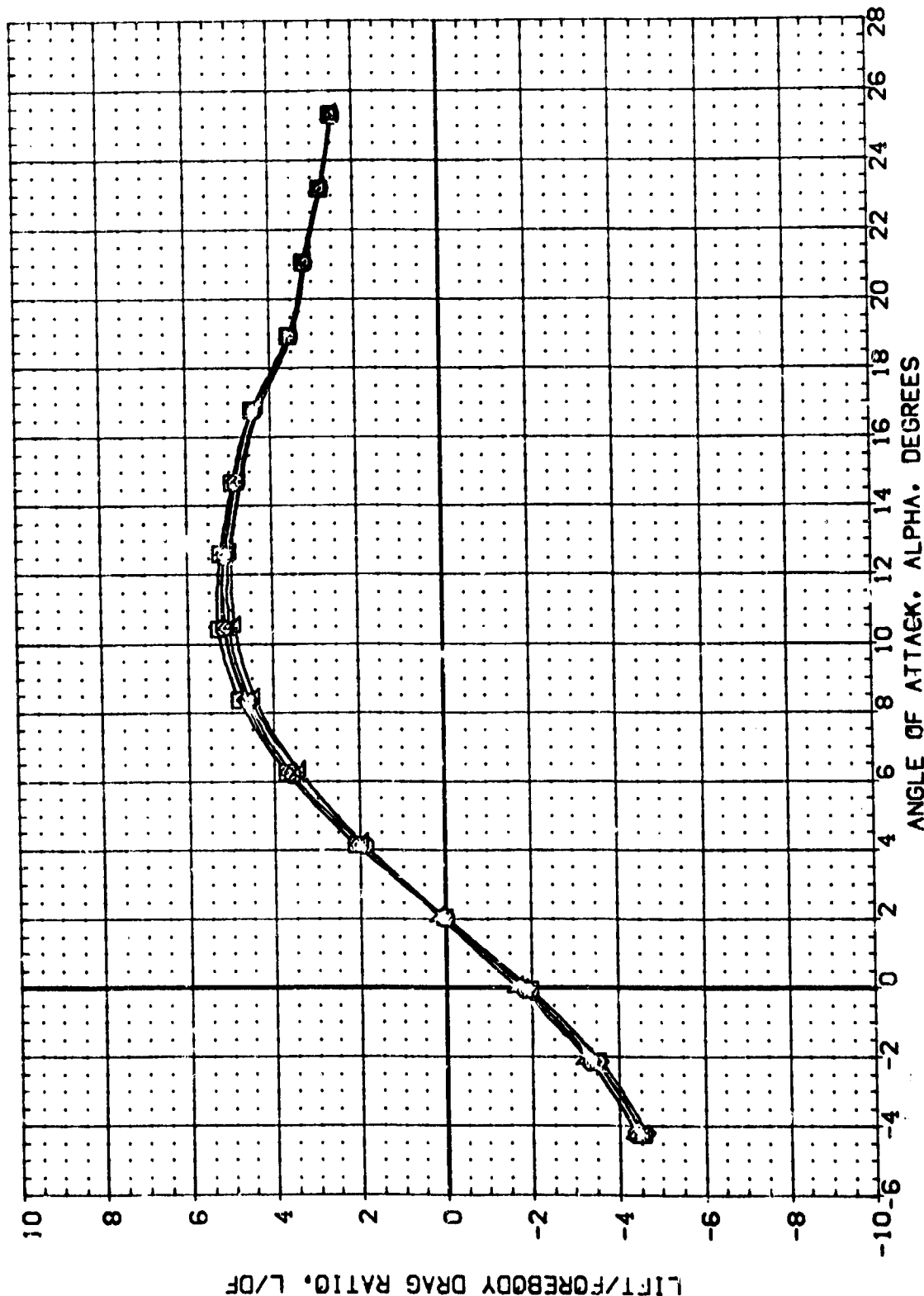


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

CANMACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(DP121)	□	0A21 817C7 H4M4FS V107E23/7R6A3	-20.000	.000	-18.000	55.000	SREF 4.4119 SO.FT. INCHES
(DP120)	□	0A21 817C7 H4M4FS V107E23/7R6A3	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(DP117)	□	0A21 817C7 H4M4FS V107E23/7R6A3	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(DP118)	□	0A21 817C7 H4M4FS V107E23/7R6A3	10.000	.000	-18.000	55.000	YMRP 43.5974 INCHES
(DP119)	□	0A21 817C7 H4M4FS V107E23/7R6A3	20.000	.000	-18.000	55.000	ZMRP 16.2000 INCHES
							SCALE .0405

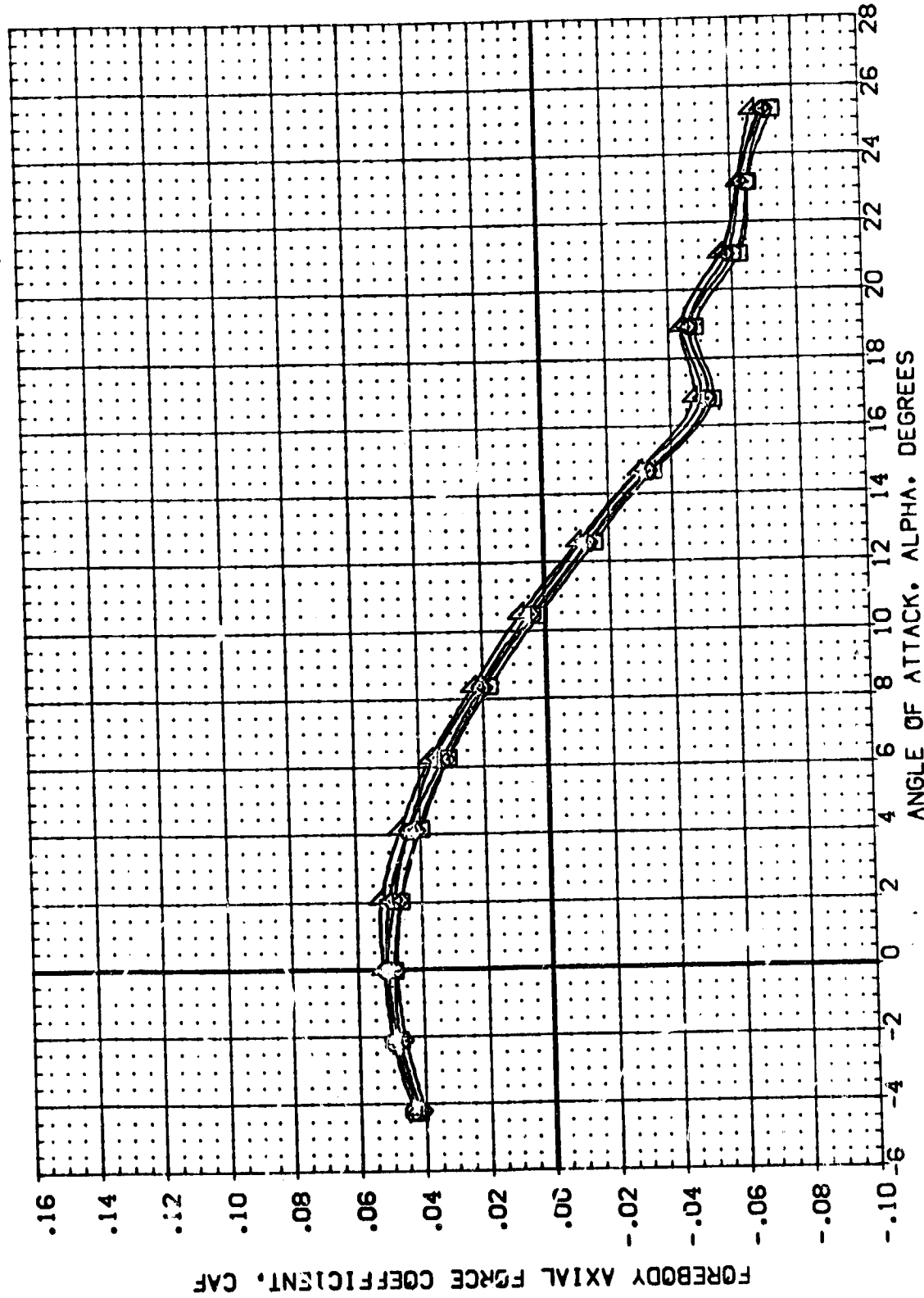


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(ID121)	DA21 B17C7 H4M4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(ID120)	DA21 B17C7 H4M4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	REF 19.2299 INCHES
(ID117)	DA21 B17C7 H4M4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(ID118)	DA21 B17C7 H4M4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	XMRP 43.9974 INCHES
(ID119)	DA21 B17C7 H4M4FS V107E23V7R6X9		.000	-18.000	55.000	YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

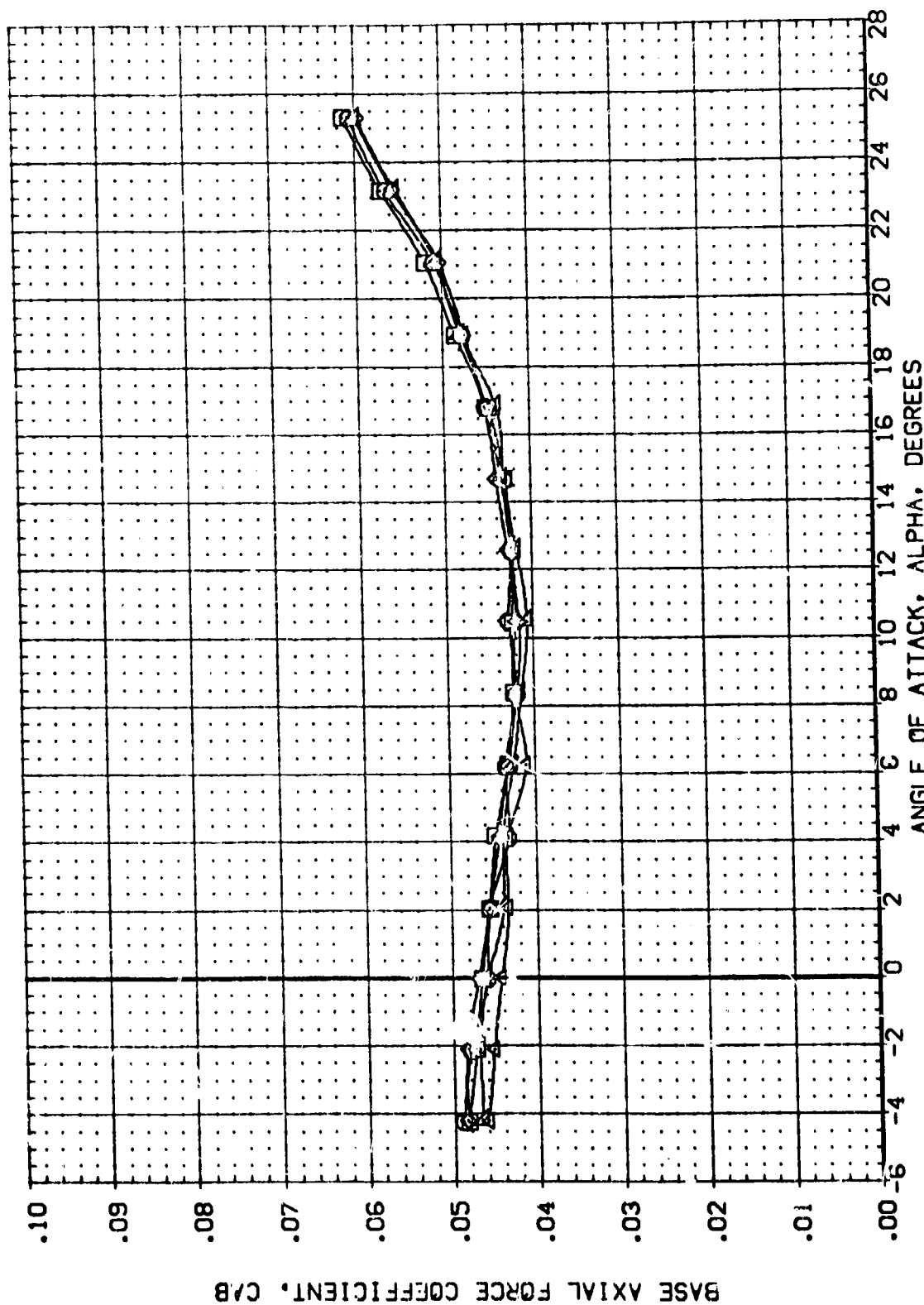


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .25

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(DP121)	CA21 817C7 H4M4FS V107E23V7RGX9	-20.000	.000	-18.000	55.000	4.4119 SO.FT.
(DP122)	CA21 817C7 H4M4FS V107E23V7RGX9	-10.000	.000	-18.000	55.000	19.2299 INC-ES
(DP117)	CA21 817C7 H4M4FS V107E23V7RGX9	.000	.000	-18.000	55.000	37.9359 INC-ES
(DP118)	CA21 817C7 H4M4FS V107E23V7RGX9	10.000	.000	-18.000	55.000	43.5874 INC-ES
(DP119)	CA21 817C7 H4M4FS V107E23V7RGX9	20.000	.000	-18.000	55.000	0.0000 INC-ES
						16.2000 INC-ES
						.0405 SCALE

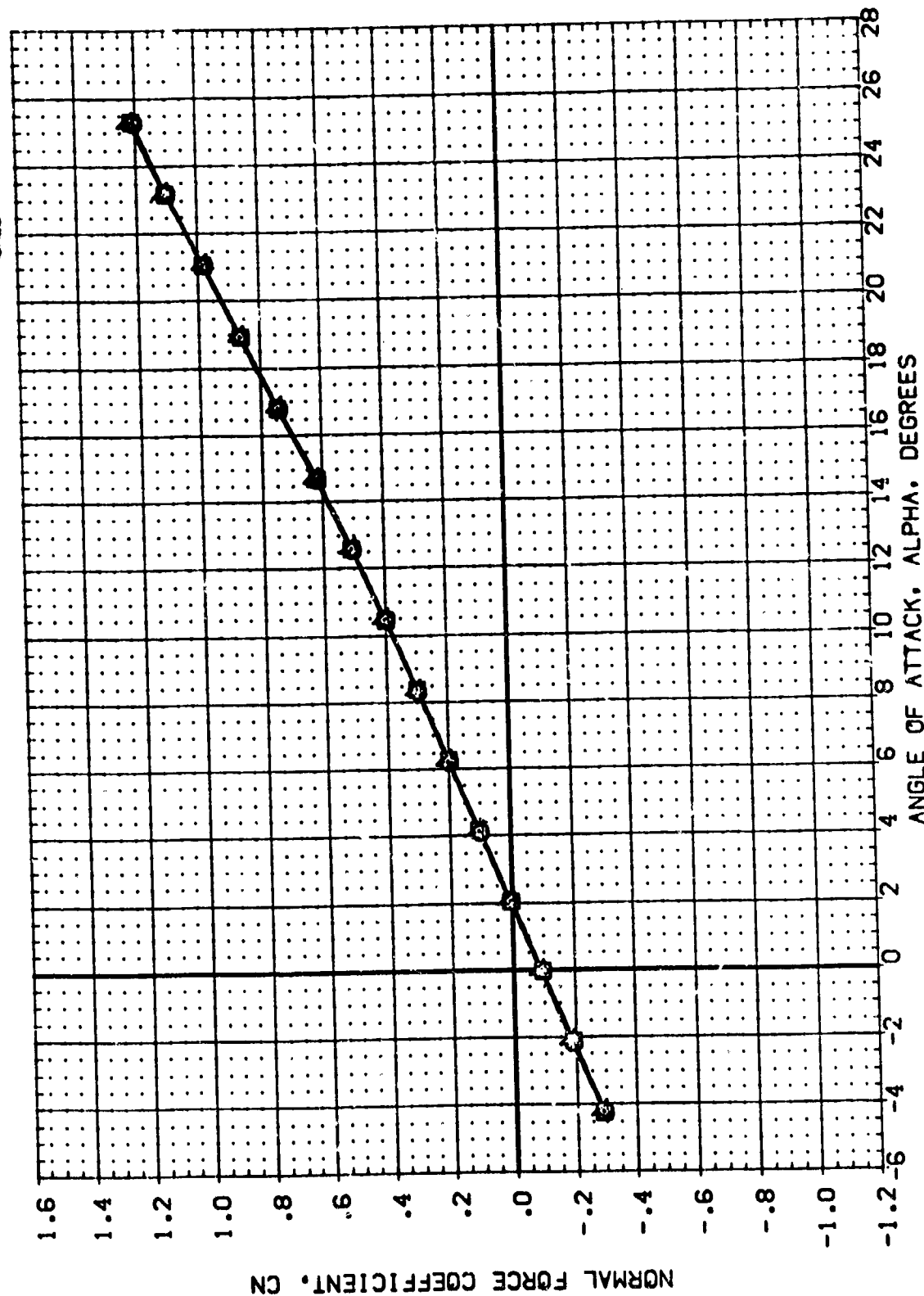


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(DP121)	0A21 817C7 H4M4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP120)	0A21 817C7 H4M4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2289 INCHES
(DP117)	0A21 817C7 H4M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(DP118)	0A21 817C7 H4M4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	XREF 43.0000 INCHES
(DP119)	0A21 817C7 H4M4F5 V107E23V7R6X9		.000	-18.000	55.000	YREF 16.2000 INCHES
						ZREF .0405 SCALE

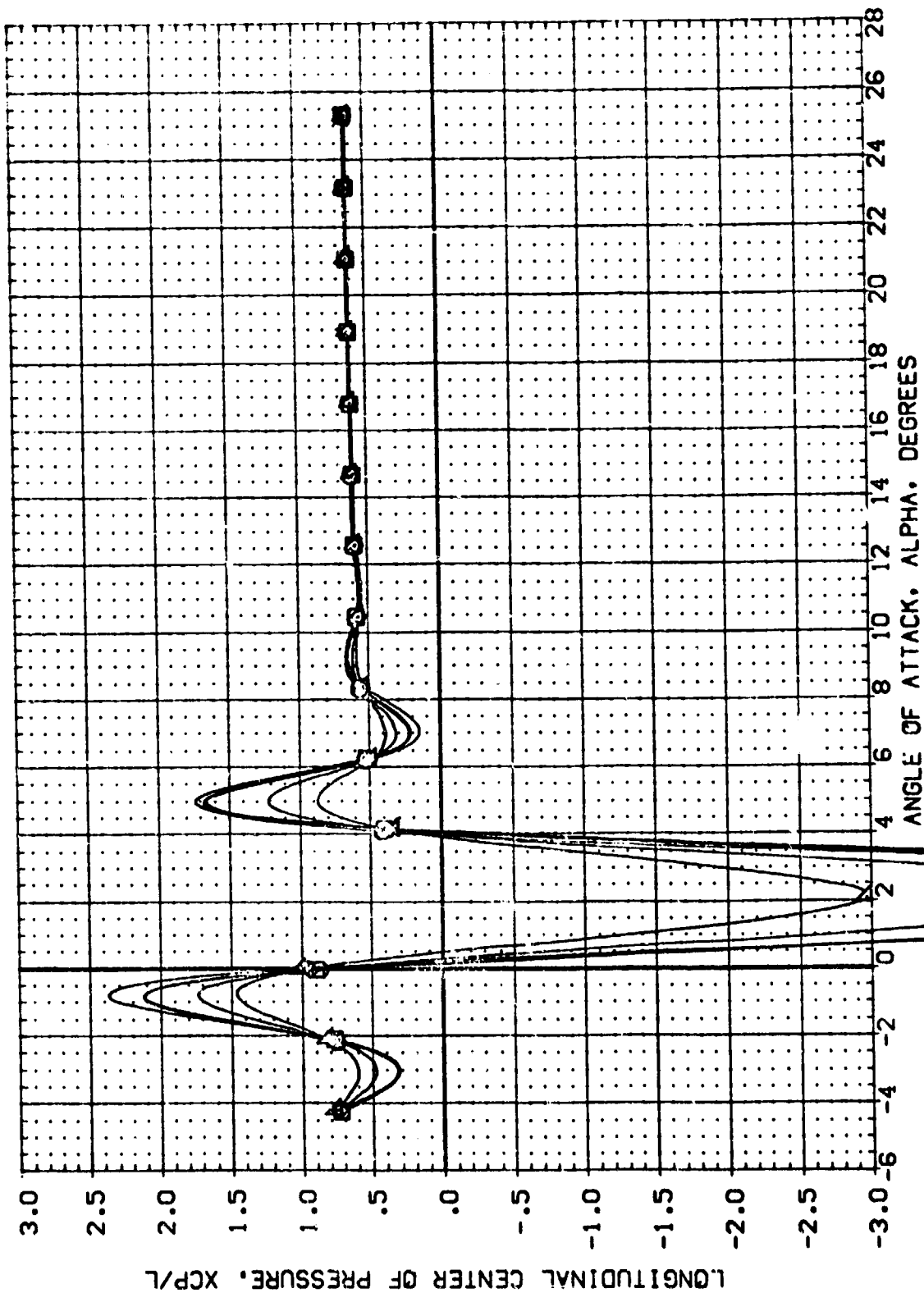


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(IDP121)	DA21 817C7 HAM4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 50.00
(IDP120)	DA21 817C7 HAM4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2299 50.00
(IDP117)	DA21 817C7 HAM4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.5359 50.00
(IDP118)	DA21 817C7 HAM4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	XREF 43.5974 50.00
(IDP119)	DA21 817C7 HAM4FS V107E23V7R6X9					YREF 16.2000 50.00
						ZREF .0405 50.00

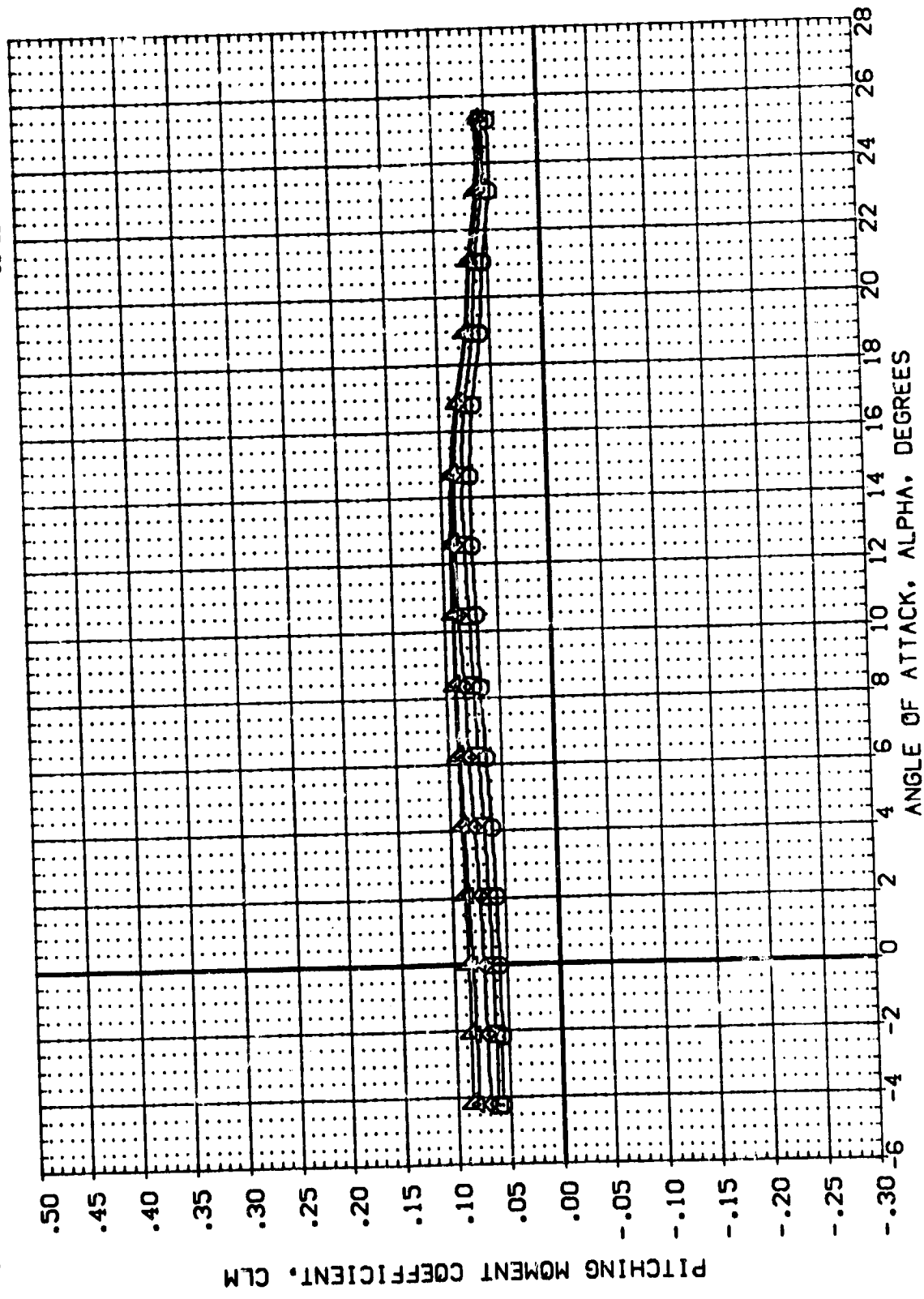


FIGURE 38 LONGITUDINAL EFFECTS OF H4 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRK	REFERENCE INFORMATION
[DP126]	0A21 817C7 H5M4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
[DP123]	0A21 817C7 H5M4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
[DP122]	0A21 817C7 H5M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
[DP123]	0A21 817C7 H5M4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
[DP124]	0A21 817C7 H5M4F5 V107E23V7R6X9				55.000	YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

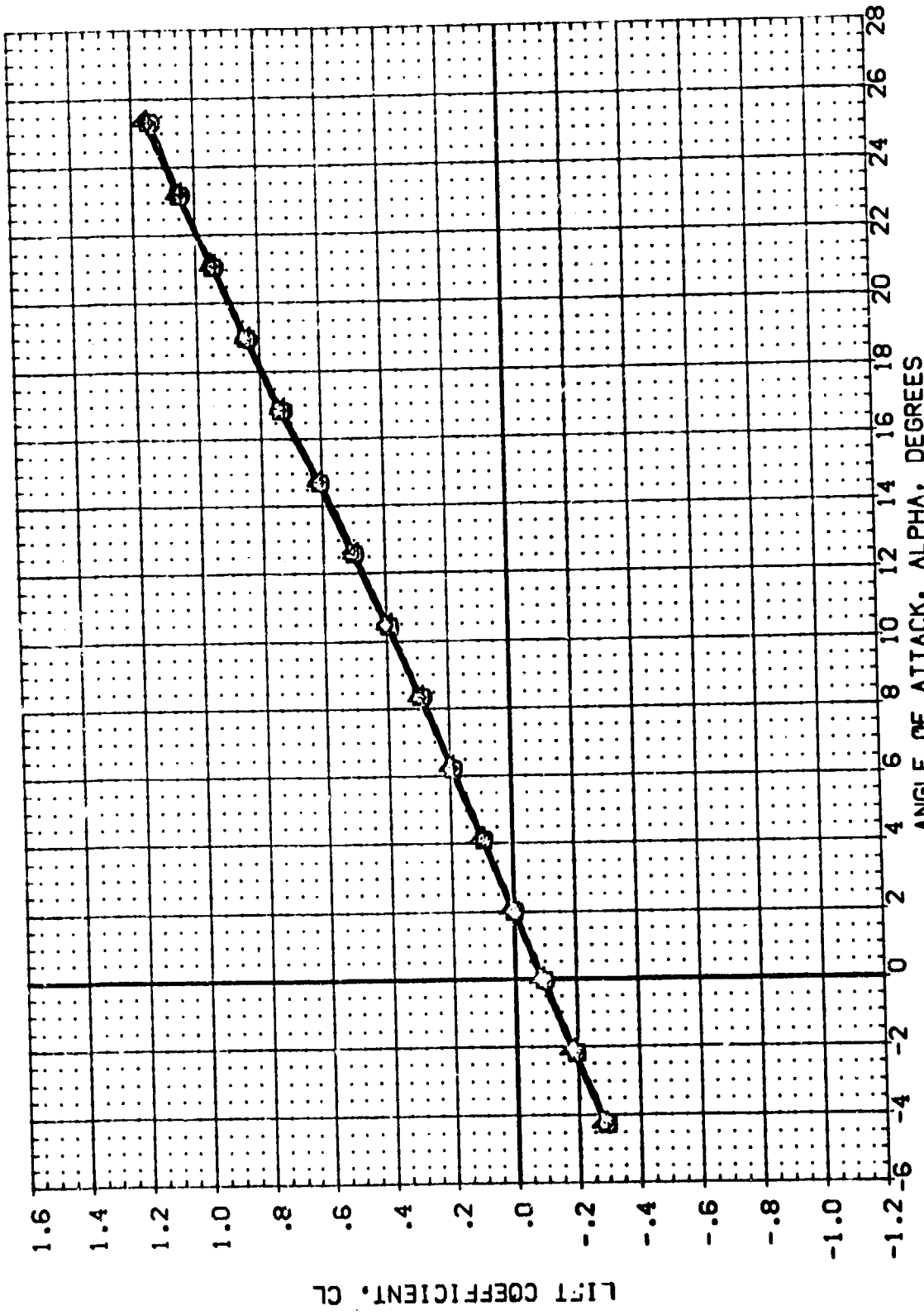


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPDRK	REFERENCE INFORMATION		
(DP126)	0A21 817C7 H5M4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF	4.4119	50.000
(DP127)	0A21 817C7 H5M4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF	19.2289	INCHES
(DP128)	0A21 817C7 H5M4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF	37.9359	INCHES
(DP129)	0A21 817C7 H5M4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	XMRP	43.5974	INCHES
(DP130)	0A21 817C7 H5M4F5 V107E23V7R6X9					YMRP	.0000	INCHES
(DP131)	0A21 817C7 H5M4F5 V107E23V7R6X9					ZMRP	16.2000	INCHES
(DP132)	0A21 817C7 H5M4F5 V107E23V7R6X9					SCALE	.0405	SCALE

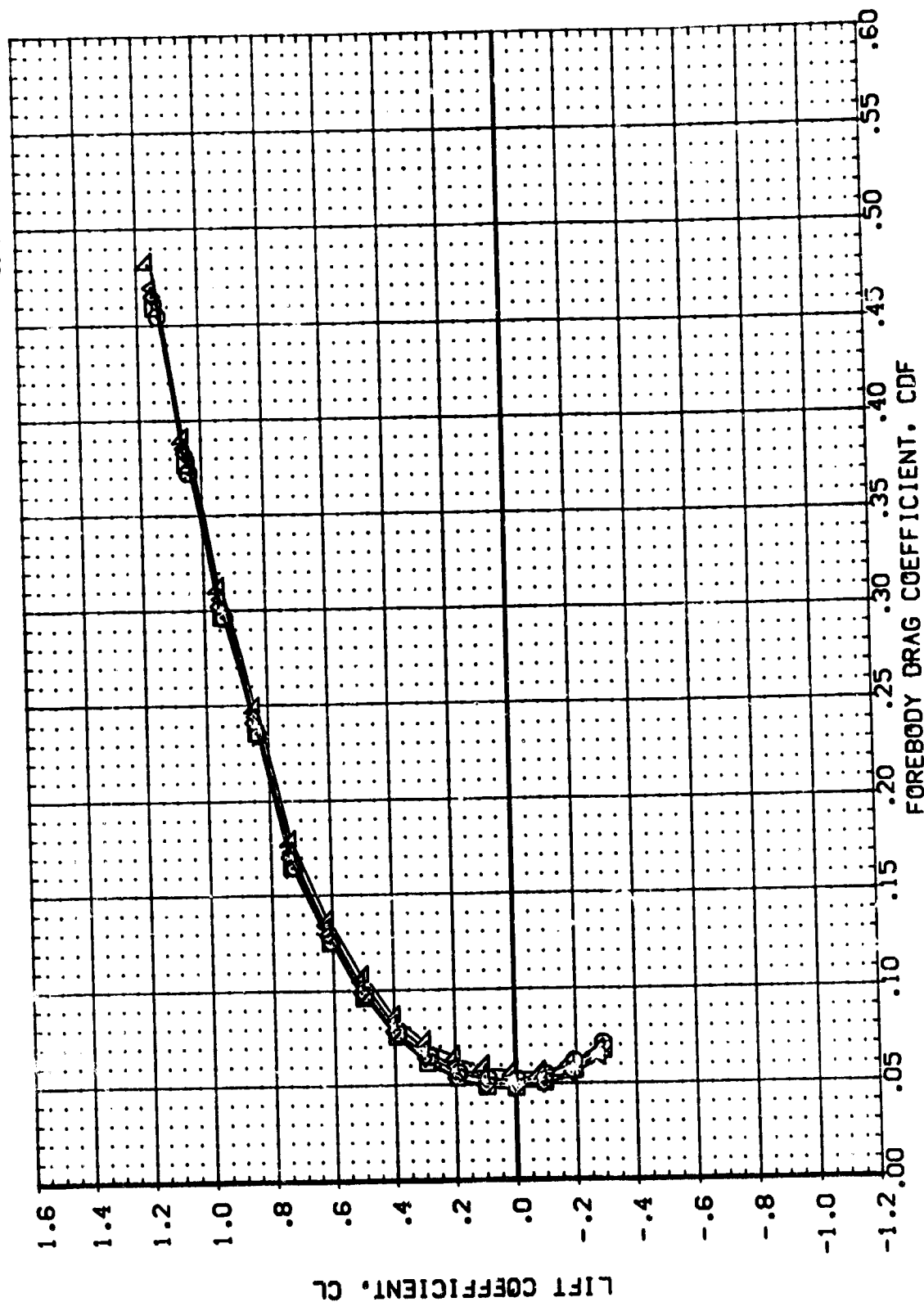


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP126]	GA21 817C7 HSMF5 V107E23V7RGX9	-20.000	.000	-18.000	55.000	SREF 4.4119 50.17
[DP127]	GA21 817C7 HSMF5 V107E23V7RGX9	-10.000	.000	-18.000	55.000	LREF 19.2298 10.05
[DP128]	GA21 817C7 HSMF5 V107E23V7RGX9	.000	.000	-18.000	55.000	BREF 37.9353 10.05
[DP129]	GA21 817C7 HSMF5 V107E23V7RGX9	10.000	.000	-18.000	55.000	XREF 43.5574 10.05
[DP130]	GA21 817C7 HSMF5 V107E23V7RGX9	20.000	.000	-18.000	55.000	YREF .0000 10.05
[DP131]	GA21 817C7 HSMF5 V107E23V7RGX9		.000	-18.000	55.000	ZREF 16.2000 10.05
[DP132]	GA21 817C7 HSMF5 V107E23V7RGX9		.000	-18.000	55.000	SCALE .0405

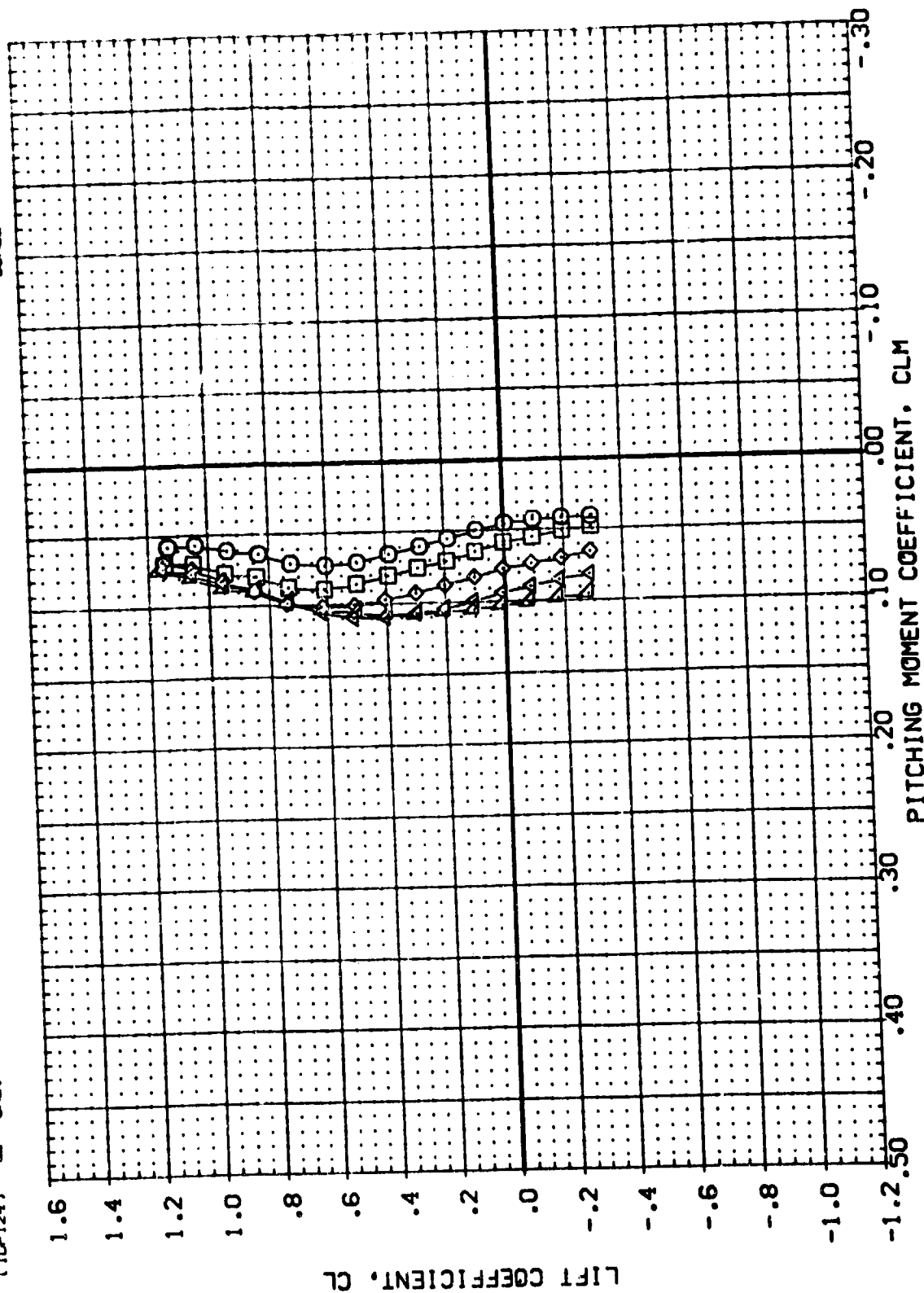


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SFOBRK	REFERENCE INFORMATION
(DP126)	□	0A21 817C7 HSM4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP127)	□	0A21 817C7 HSM4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2289 INCHES
(DP128)	□	0A21 817C7 HSM4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(DP129)	□	0A21 817C7 HSM4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	YMRP 43.5974 INCHES
(DP130)	□	0A21 817C7 HSM4F5 V107E23V7R6X9		.000	-18.000	55.000	ZMRP 16.2000 INCHES
(DP131)	□	0A21 817C7 HSM4F5 V107E23V7R6X9		.000	-18.000	55.000	SCALE .0405

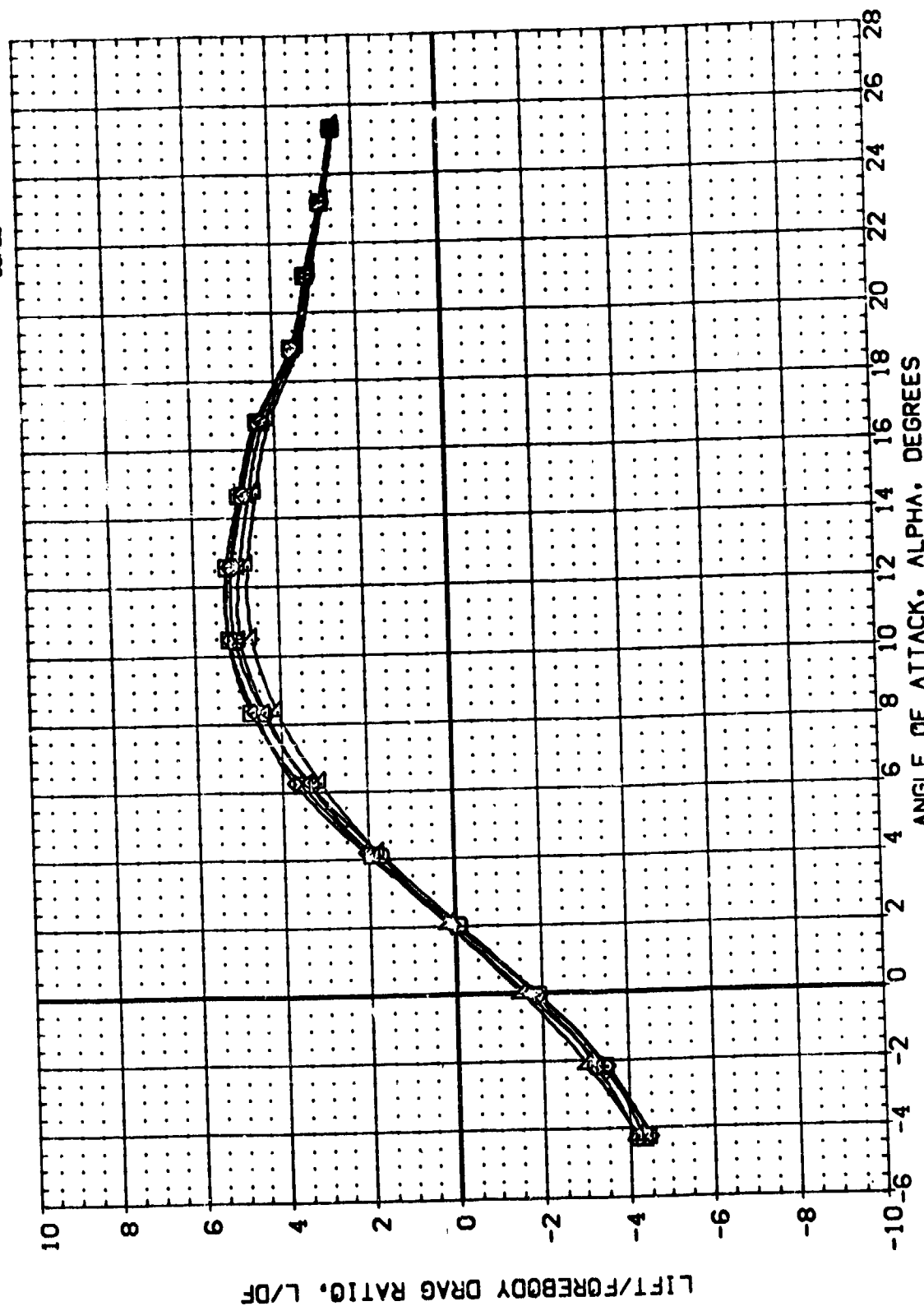


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP126]	0A21 B17C7 HSM4F5 V107E23V7R6X9	-20.000	.000	-18.000	55.000	4.4119 50.00
[DP127]	0A21 B17C7 HSM4F5 V107E23V7R6X9	-10.000	.000	-18.000	55.000	19.2299 10.00
[DP128]	0A21 B17C7 HSM4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	37.9359 10.00
[DP129]	0A21 B17C7 HSM4F5 V107E23V7R6X9	10.000	.000	-18.000	55.000	43.5974 10.00
[DP130]	0A21 B17C7 HSM4F5 V107E23V7R6X9	20.000	.000	-18.000	55.000	16.2633 10.00
[DP131]	0A21 B17C7 HSM4F5 V107E23V7R6X9					SCALE

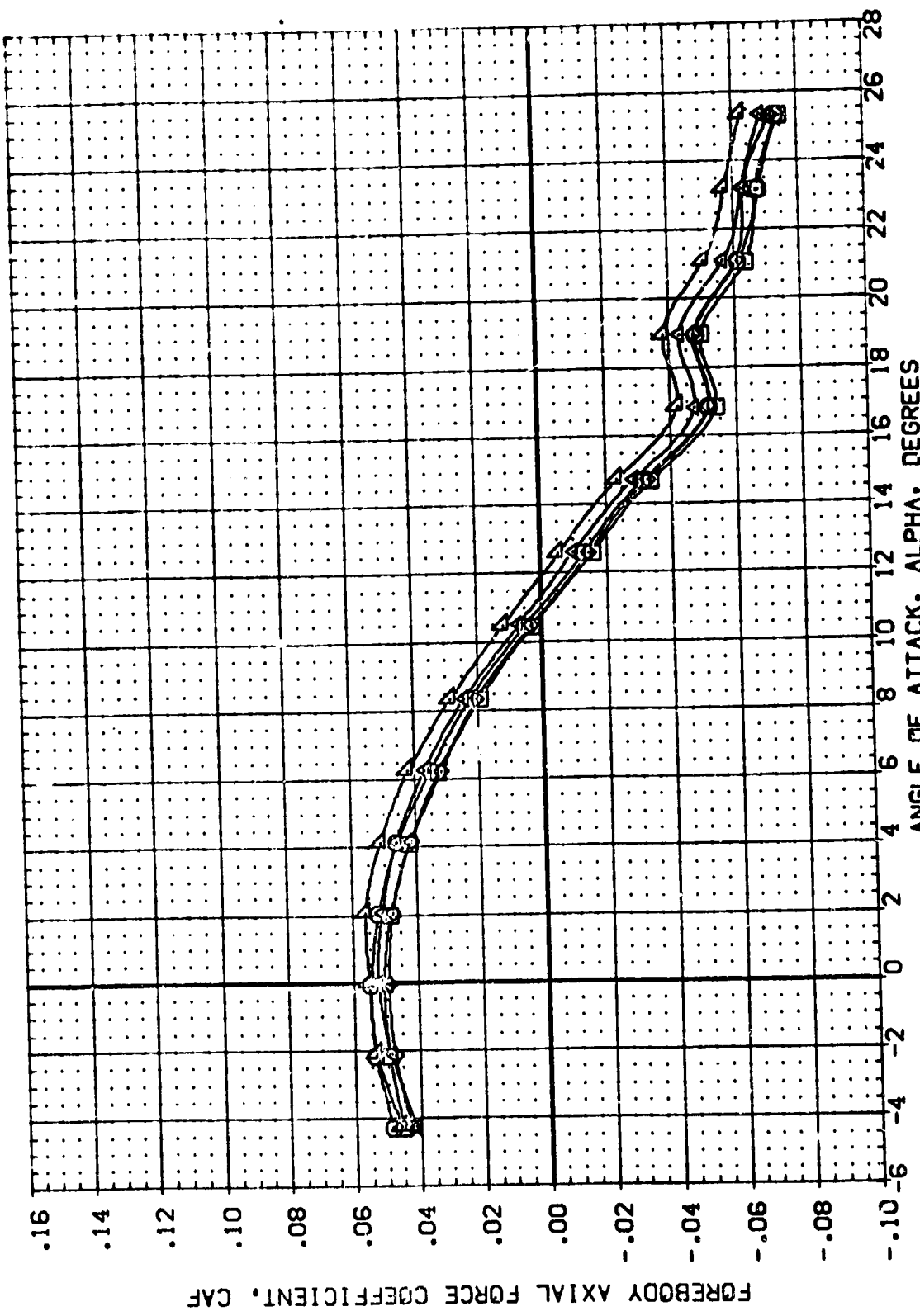


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP126]	DA21 B17C7 HSM4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 50.FT.
[DP125]	DA21 B17C7 HSM4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2259 INCHES
[DP122]	DA21 B17C7 HSM4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
[DP123]	DA21 B17C7 HSM4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	XMRP 43.5974 INCHES
[DP124]	DA21 B17C7 HSM4FS V107E23V7R6X9					YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

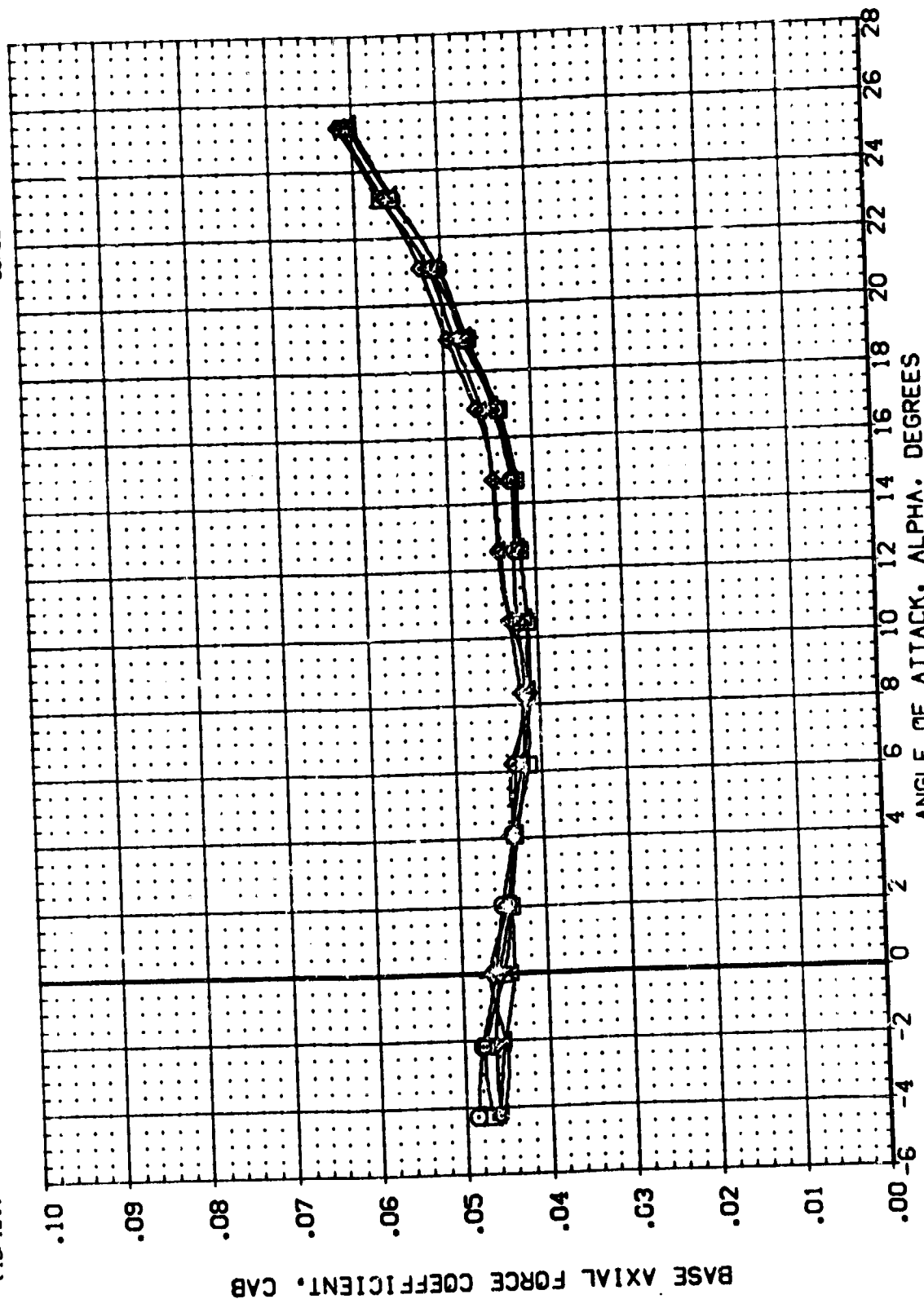


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(DP126)	BA21 B17C7 HSM4FS V107E23V7R6X9	-20.000	.000	-18.000	55.000	SREF 4.4119 SCLET INCHES
(DP125)	BA21 B17C7 HSM4FS V107E23V7R6X9	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
(DP122)	BA21 B17C7 HSM4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(DP123)	BA21 B17C7 HSM4FS V107E23V7R6X9	10.000	.000	-18.000	55.000	XTRP 43.5974 INCHES
(DP124)	BA21 B17C7 HSM4FS V107E23V7R6X9	20.000	.000	-18.000	55.000	YTRP .0000 INCHES
						ZTRP 16.2000 INCHES
						SCALE .0405 SCALE

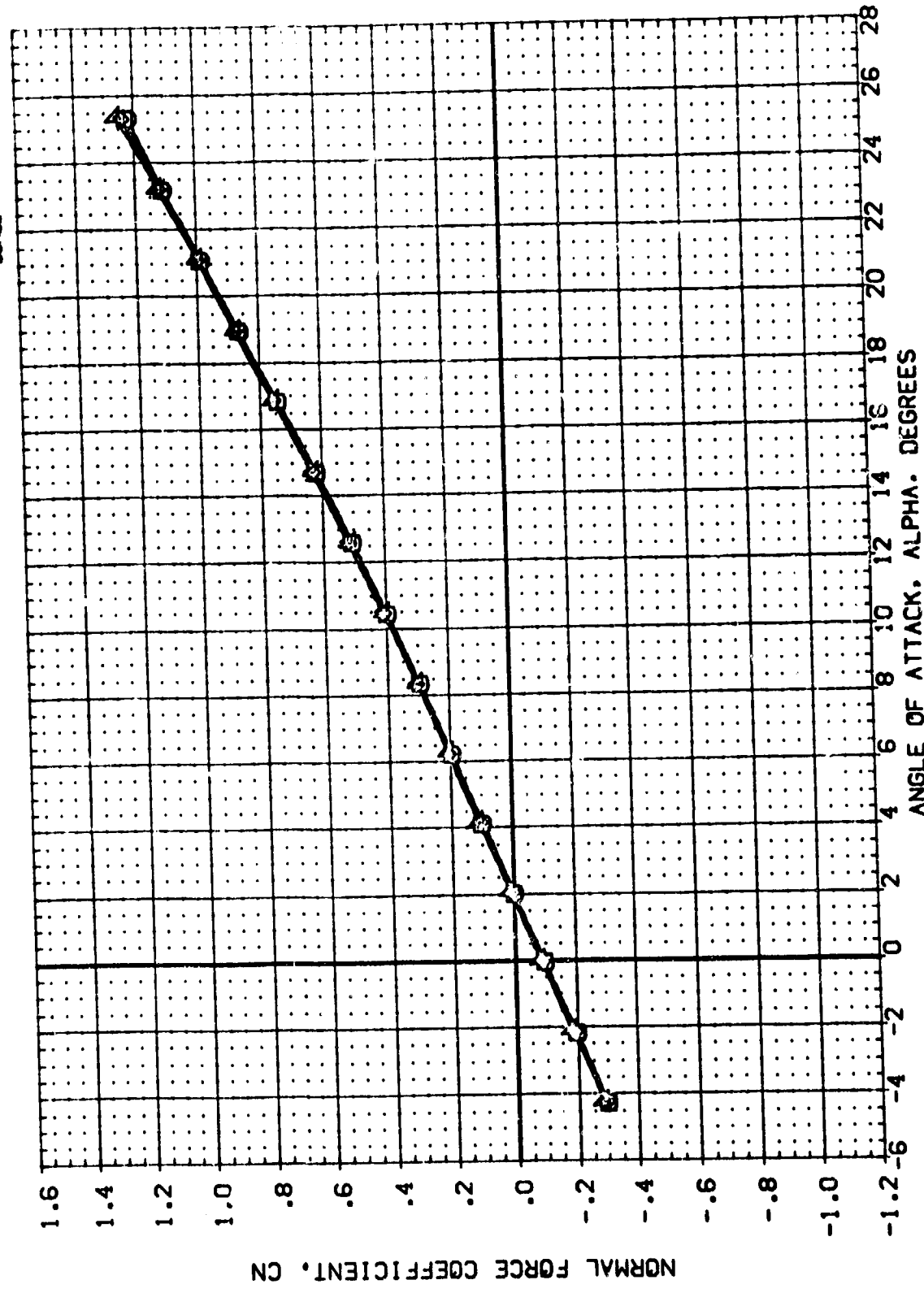


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP126]	0A21 B17C7 H5H4F5	-20.000	.000	-18.000	55.000	SREF 4.4119 SO.FT. INCHES
[DP125]	0A21 B17C7 H5H4F5	-10.000	.000	-18.000	55.000	LREF 19.2299 INCHES
[DP122]	0A21 B17C7 H5H4F5	10.000	.000	-18.000	55.000	BREF 37.9359 INCHES
[DP123]	0A21 B17C7 H5H4F5	20.000	.000	-18.000	55.000	XMRP 43.5874 INCHES
[DP124]	0A21 B17C7 H5H4F5					YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

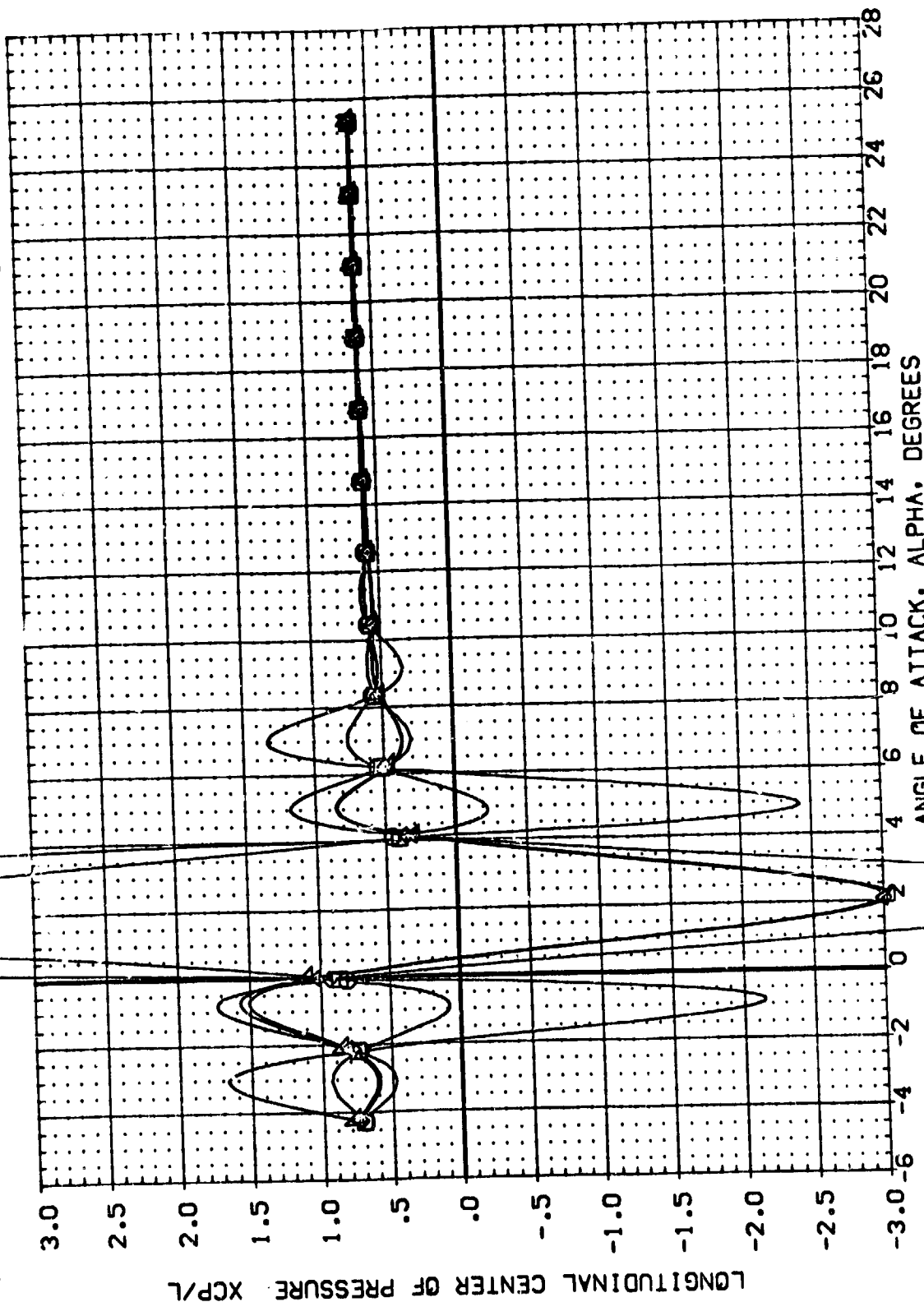


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DP126	0A21	B17C7	15MAFS	V107E23V7R6X9
DP125	0A21	B17C7	15MAFS	V107E23V7R6X9
DP124	0A21	B17C7	15MAFS	V107E23V7R6X9
DP123	0A21	B17C7	15MAFS	V107E23V7R6X9
DP122	0A21	B17C7	15MAFS	V107E23V7R6X9
DP121	0A21	B17C7	15MAFS	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.4119	SO.FT.
LREF	19.2259	INCHES
BREF	37.9359	INCHES
XMRP	43.5874	INCHES
YMRP	55.000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

SPORRY

BOFLAP	-18.000
ELEVON	.000
CANARD	-20.000
	-10.000
	10.000
	20.000

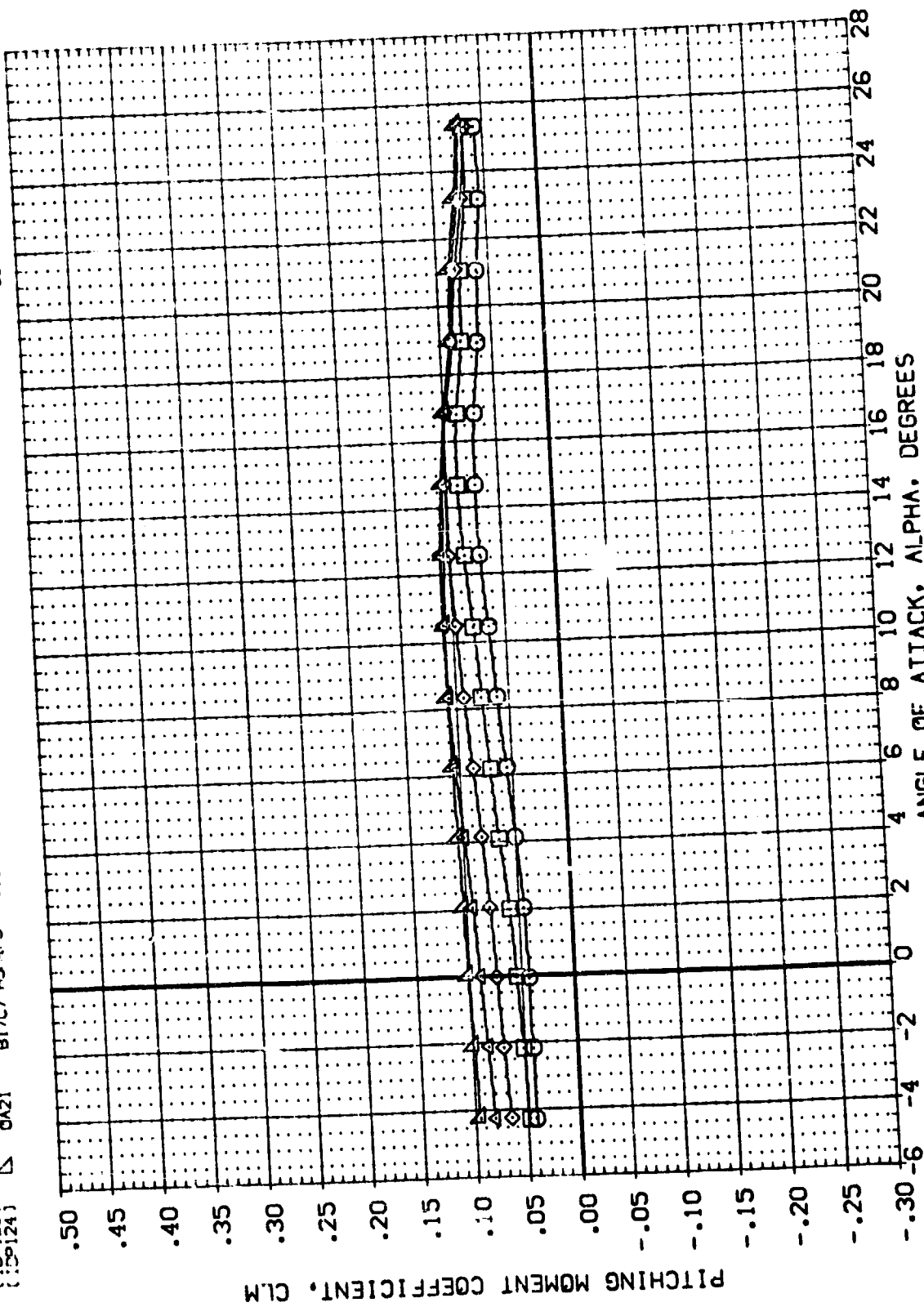


FIGURE 39 LONGITUDINAL EFFECT OF H5 CANARD INCIDENCE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CANARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(19001)	QA21 B17C7 H4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 50. FT.
(19002)	QA21 B17C7 H2M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	LREF 19.2279 INCHES
						BREF 37.5359 INCHES
						XMRP 43.5974 INCHES
						YMRP 0.00 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 INCHES

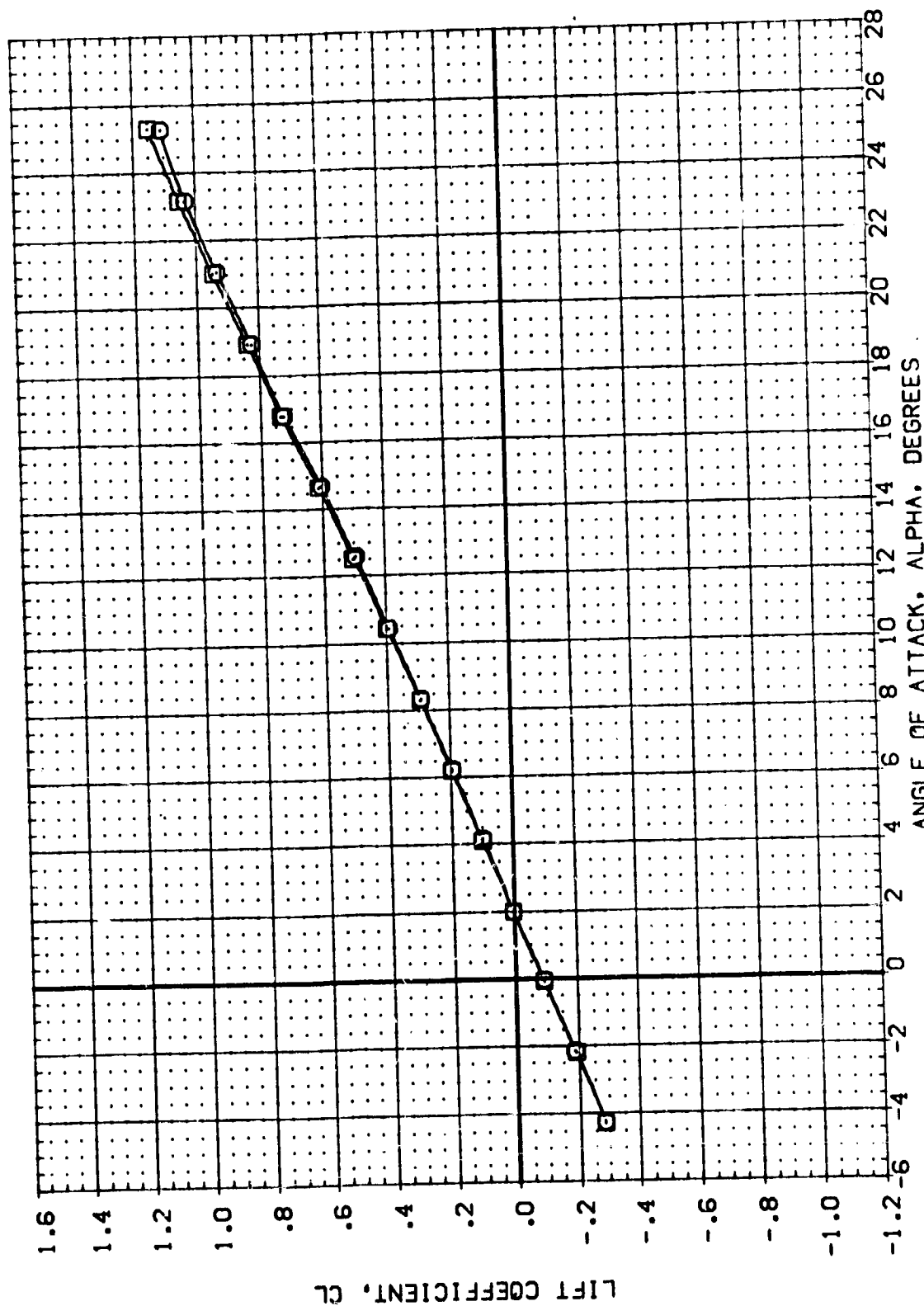


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

(M)MACH = .26





CAVARD	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION	SO.FT.
.000	.000	-18.000	\$5.000	SREF	4.4119
			\$5.000	REF	19.2299
				BREF	37.9359
				YREF	43.5974
				YREF	0.0000
				ZREF	16.2000
				SCALE	.0405

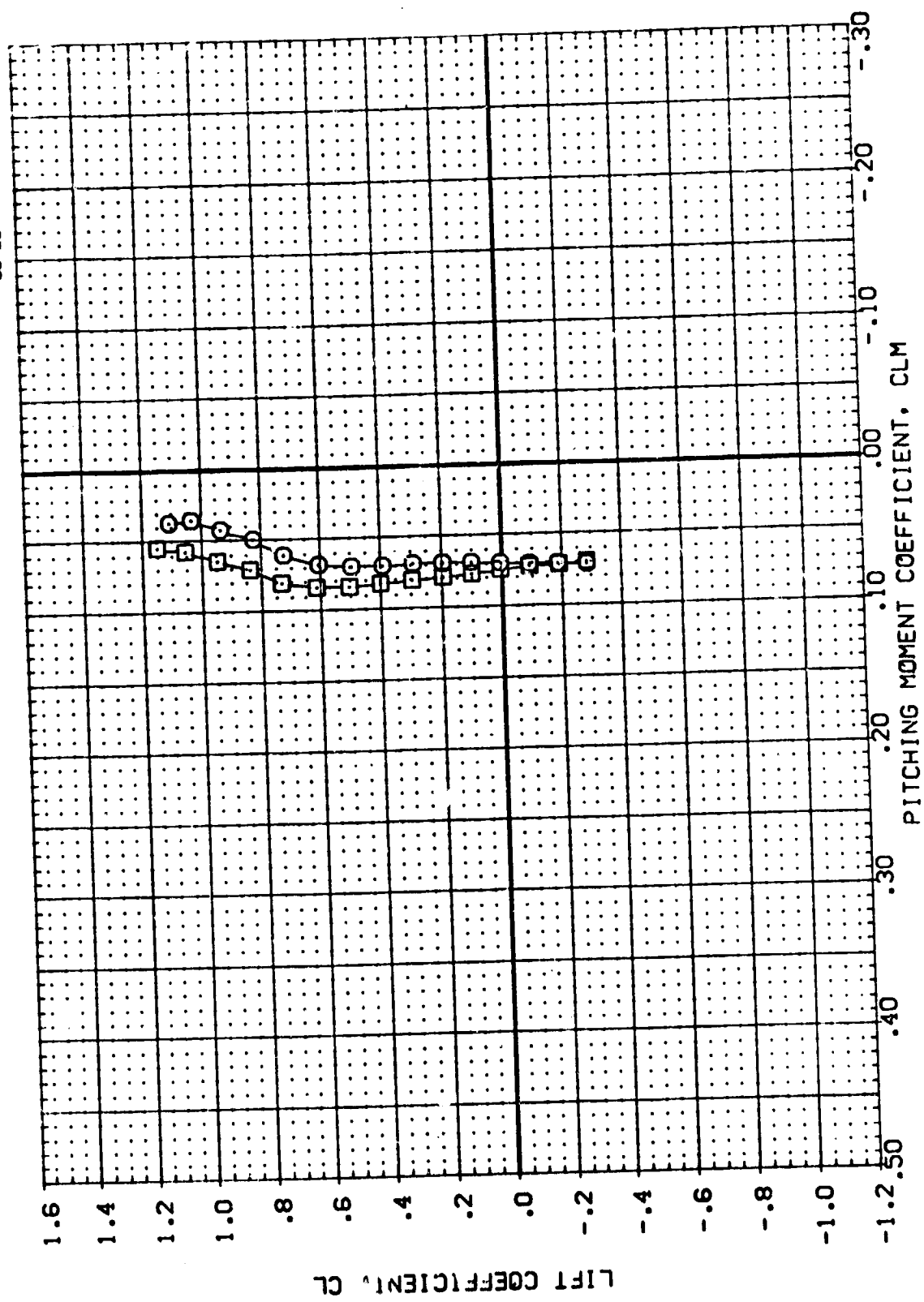


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

$$[A]_{MACH} = .26$$

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		CANARD		ELEVON	BOFLAP	SPUBRK	REFERENCE INFORMATION	
(1DP001)	QAZ1	B17C7	M4FS	V107E23V7R6X9	.000	.000	-18.000	55.000	SREF	4.4119
(1DP072)	QAZ1	B17C7	QW4FS	V107E23V7R6X9	.000	.000	-18.000	55.000	LREF	19.2259
									BRFP	37.9359
									YMRP	43.5974
									ZMRP	.0000
									SCALE	16.2000
										.0405

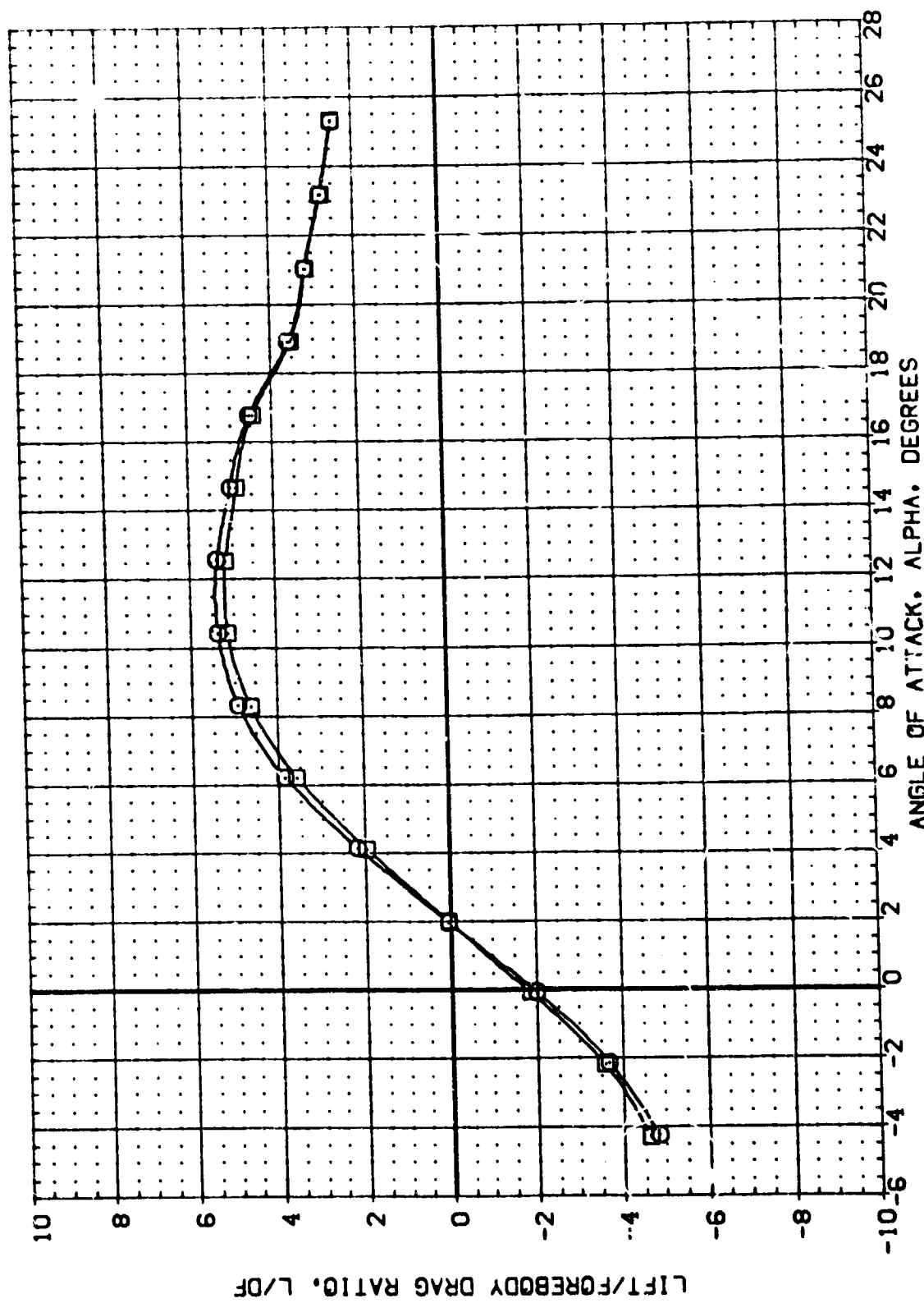


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

(A)MACH = .26

DATA SET SYMBOL: 0A21 B17C7 M4F5 V107E23V/TR6X9  
 (1DP001) 0A21 B17C7 H2M4F5 V107E23V/TR6X9  
 (1DP072)

CANARD ELEVON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

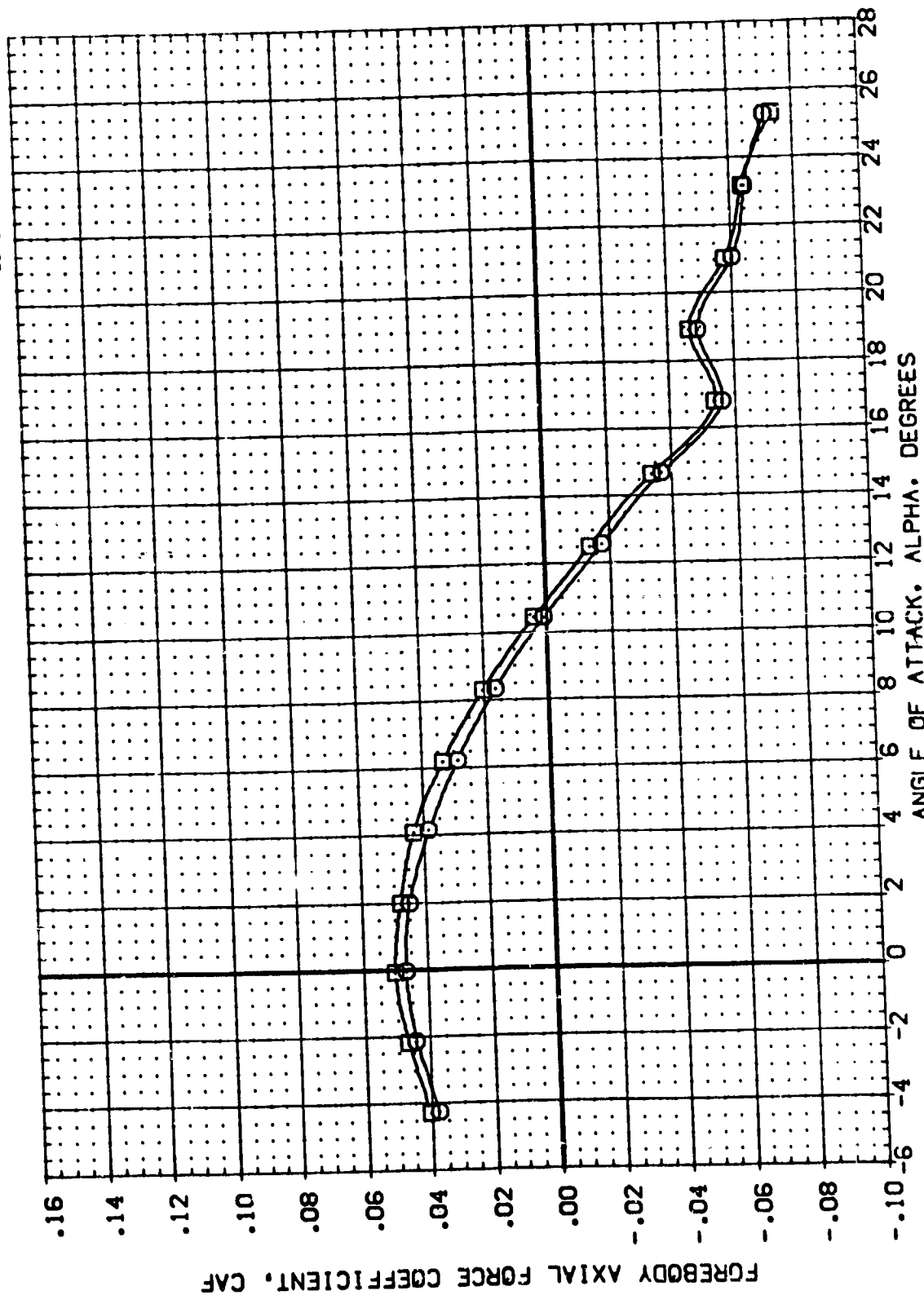


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

(A)MACH = .26

DATA SET SYMBOL: 8  
 (1DP001)  
 (1DP072)

CONFIGURATION DESCRIPTION:  
 0A21 817C7 H4F5 V107E23V7R6X9  
 0A21 817C7 H2M4F5 V107E23V7R6X9

CANARD: .000  
 ELEVON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 SQ.FT.  
 LREF: 19.2259 INCHES  
 BREF: 37.9359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: 16.2000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

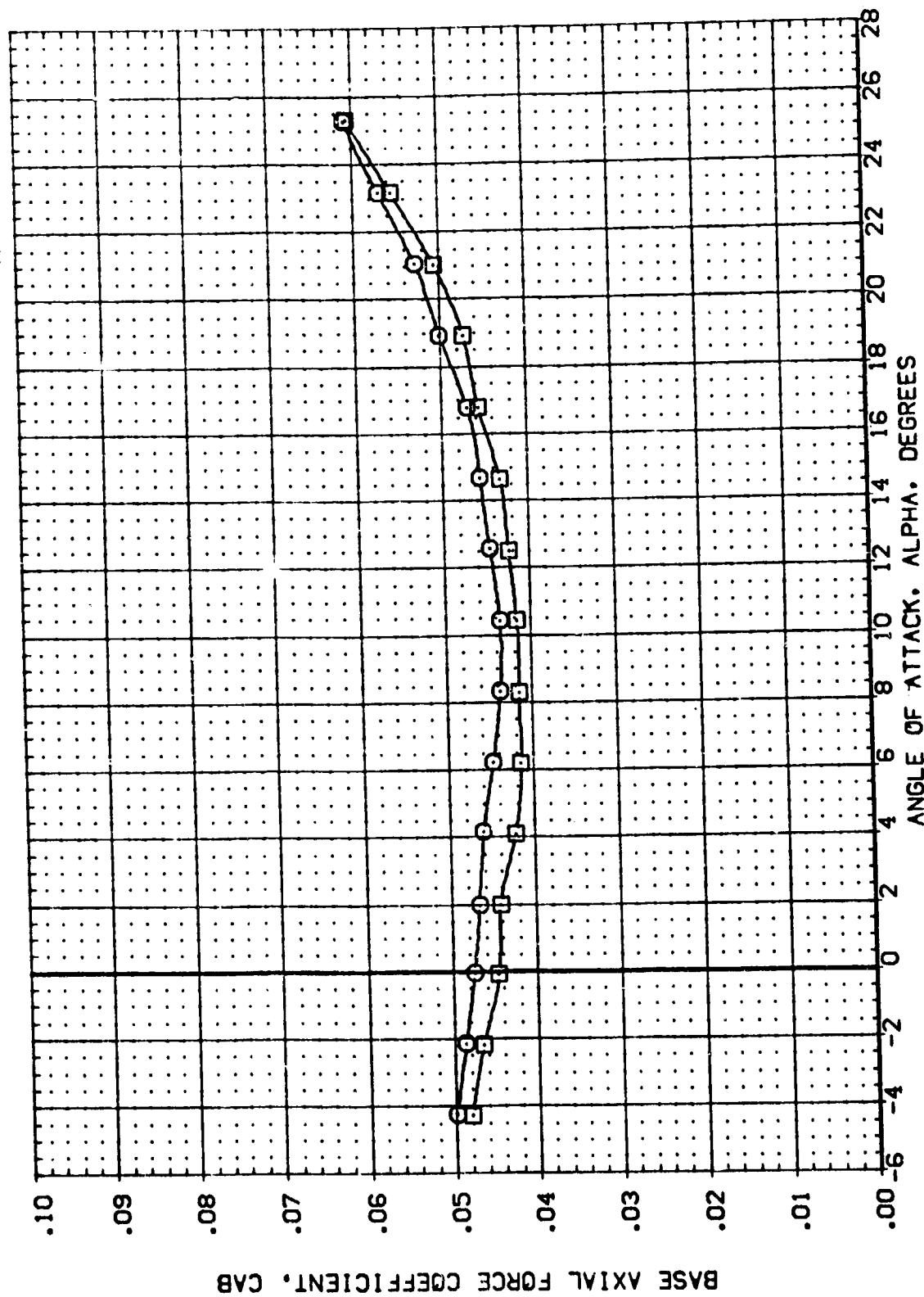


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

(A)MACH = .26

CANARO	ELEVON	BOFLAP	SPOBRK	REFERENCE IN INCHES	INCHES	INCHES	INCHES	INCHES	SCALE
.000	.000	-18.000	55.000	SREF	4.419	19.2259	37.9359	43.5974	16.2000
			55.000	LREF					.0000
				XREF					.0000
				YREF					.0000
				ZREF					.0000
				SCALE					.0000

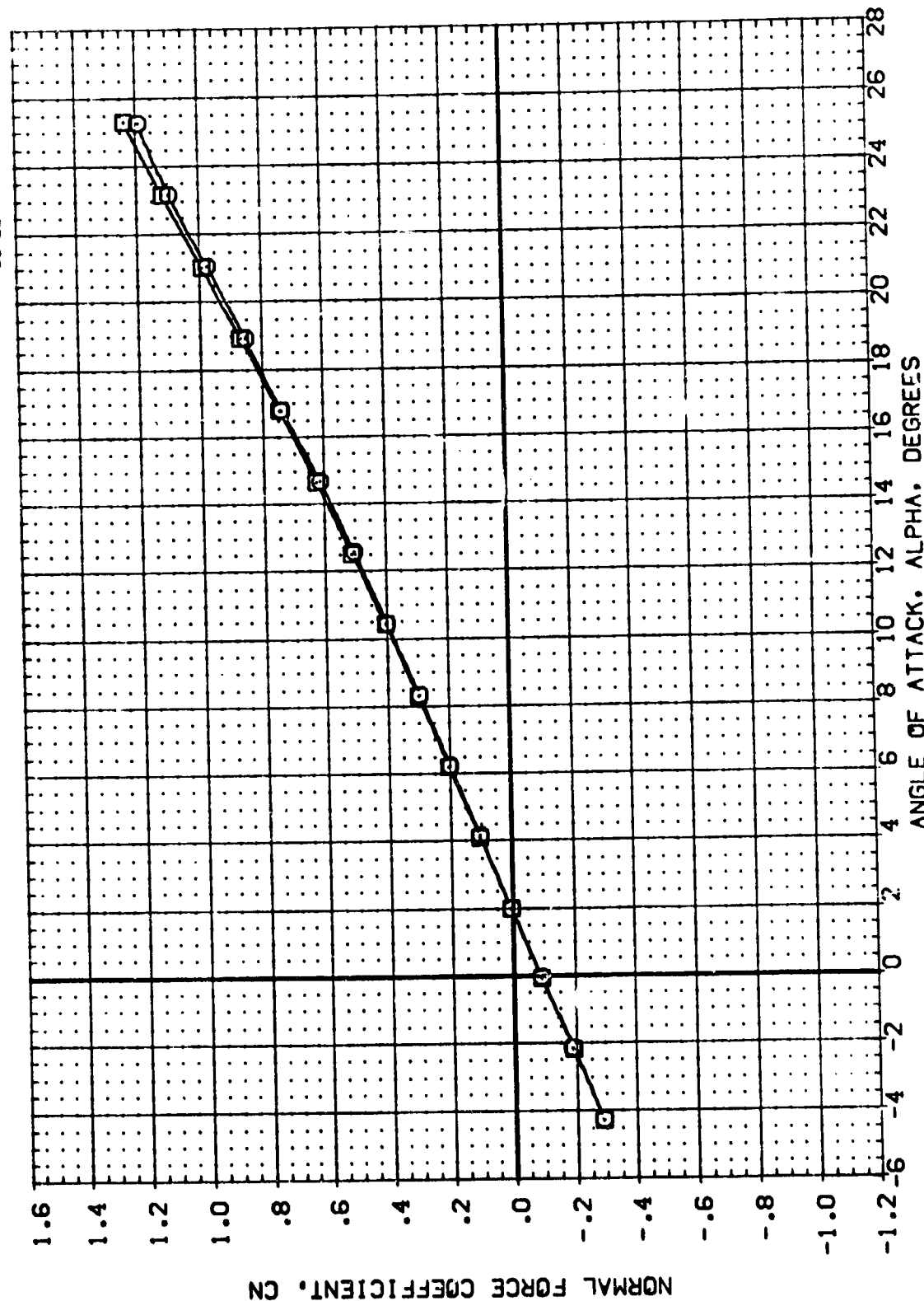


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

$$[A]_{MACH} = .26$$

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (IDP001) 0A21 817C7 H4F5 V107E23V7R6X9  
 (IDP272) 0A21 817C7 H2M4F5 V107E23V7R6X9

CANARD ELEVON BOFLAP SPOBRK  
 .000 .000 .000 -18.000 55.000 55.000  
 REFERENCE INFORMATION  
 SREF 4.4179 SQ.FT.  
 LREF 19.2289 INCHES  
 BREF 37.5559 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

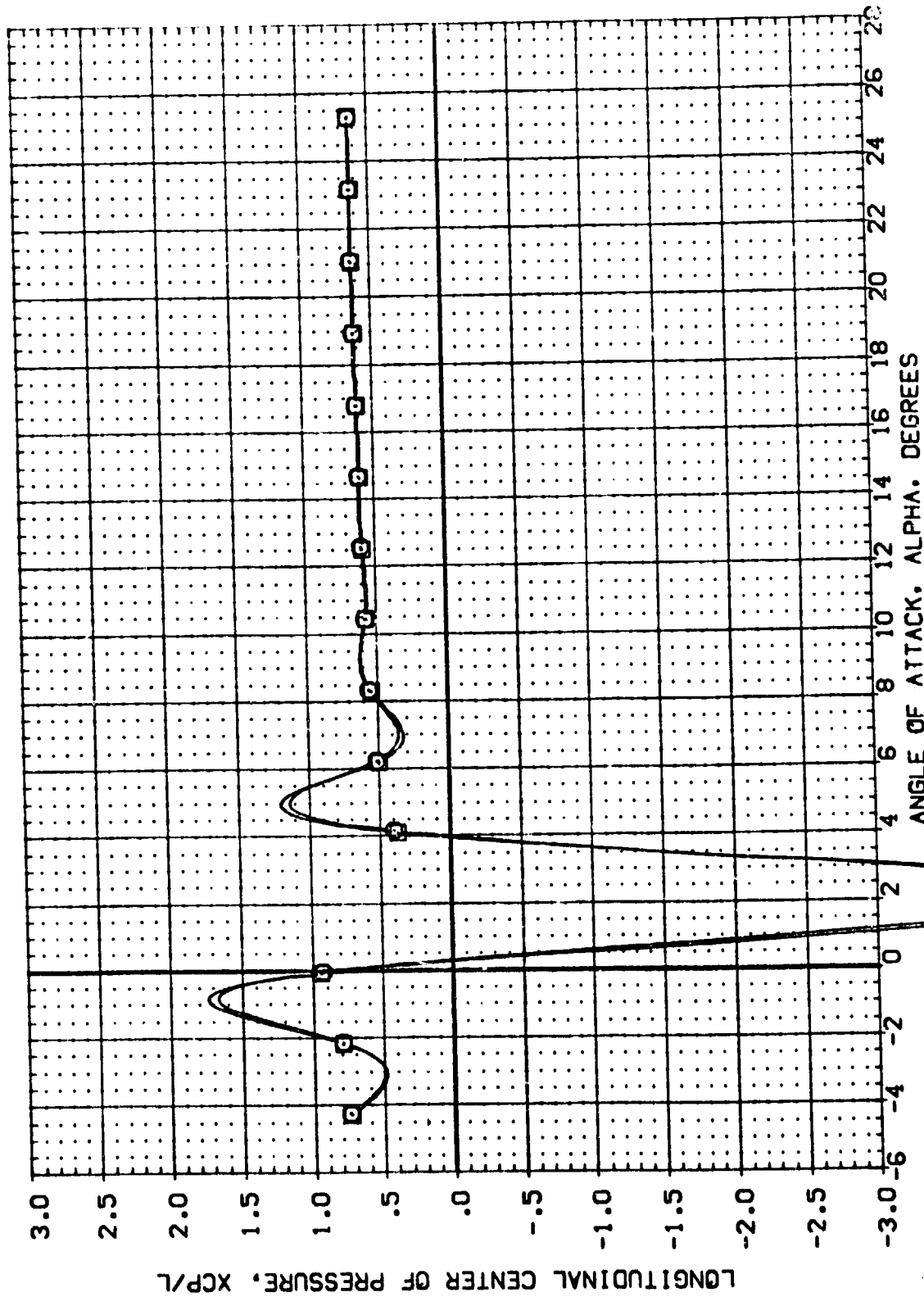


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

(A)MACH = .26

DATA SET SYMB. CONFIGURATION DESCRIPTION  
 (IDP001) 0 3A21 B17C7 M4FS V107E23V7R6X9  
 (IDP072) 0 0A21 B17C7 H2M4FS V107E23V7R6X9

CANARD ELEVON BOFLAP SPOBRK  
 .000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP 16.0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

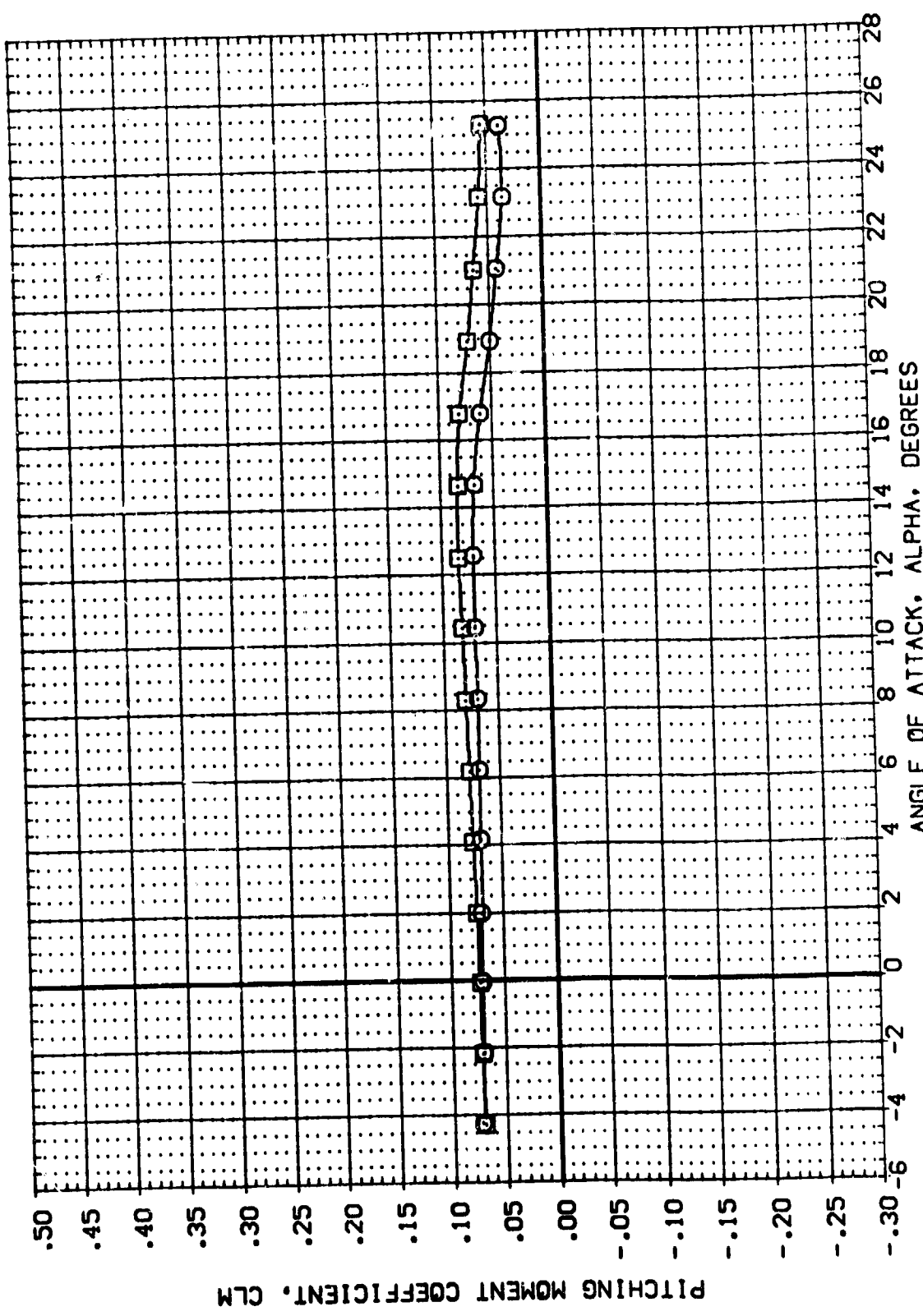


FIGURE 40 LONGITUDINAL EFFECT OF H2 CANARD

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(1DP009)	DA21 817C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	SREF 4.4119 SQ.FT.
(1DP022)	DA21 817C7 M4FS V107E23V7R6X9	.000	.000	-18.000	25.000	LREF 19.2299 INCHES
(1DP048)	DA21 817C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(1DP035)	DA21 817C7 M4FS V107E23V7R6X9	.000	.000	-18.000	85.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

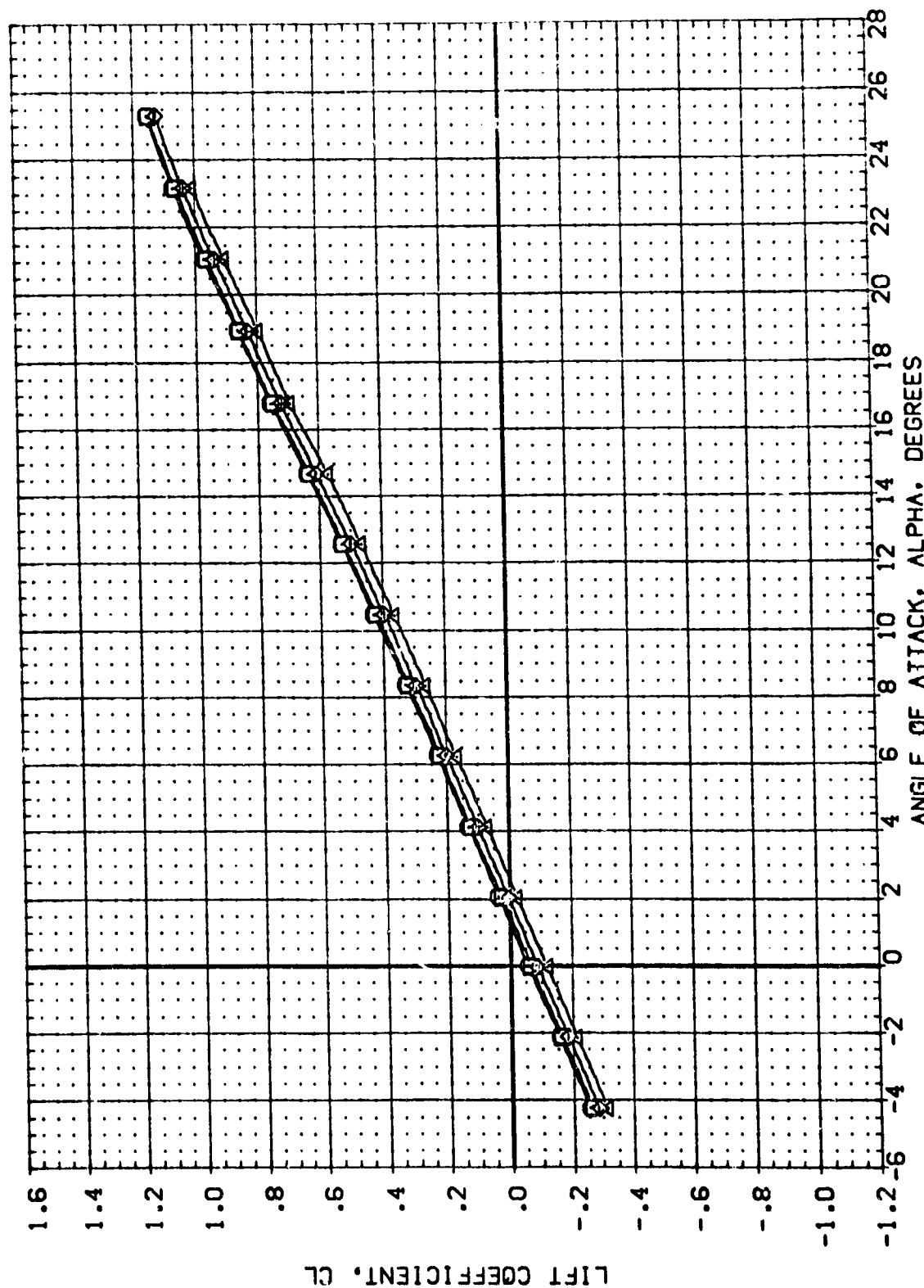


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(M)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(1DP009)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	SREF 4.4119 SQ.FT.
(1DP022)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	25.000	LREF 19.2298 INCHES
(1DP046)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF 37.5359 INCHES
(1DP035)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	85.000	XMRP 43.5974 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

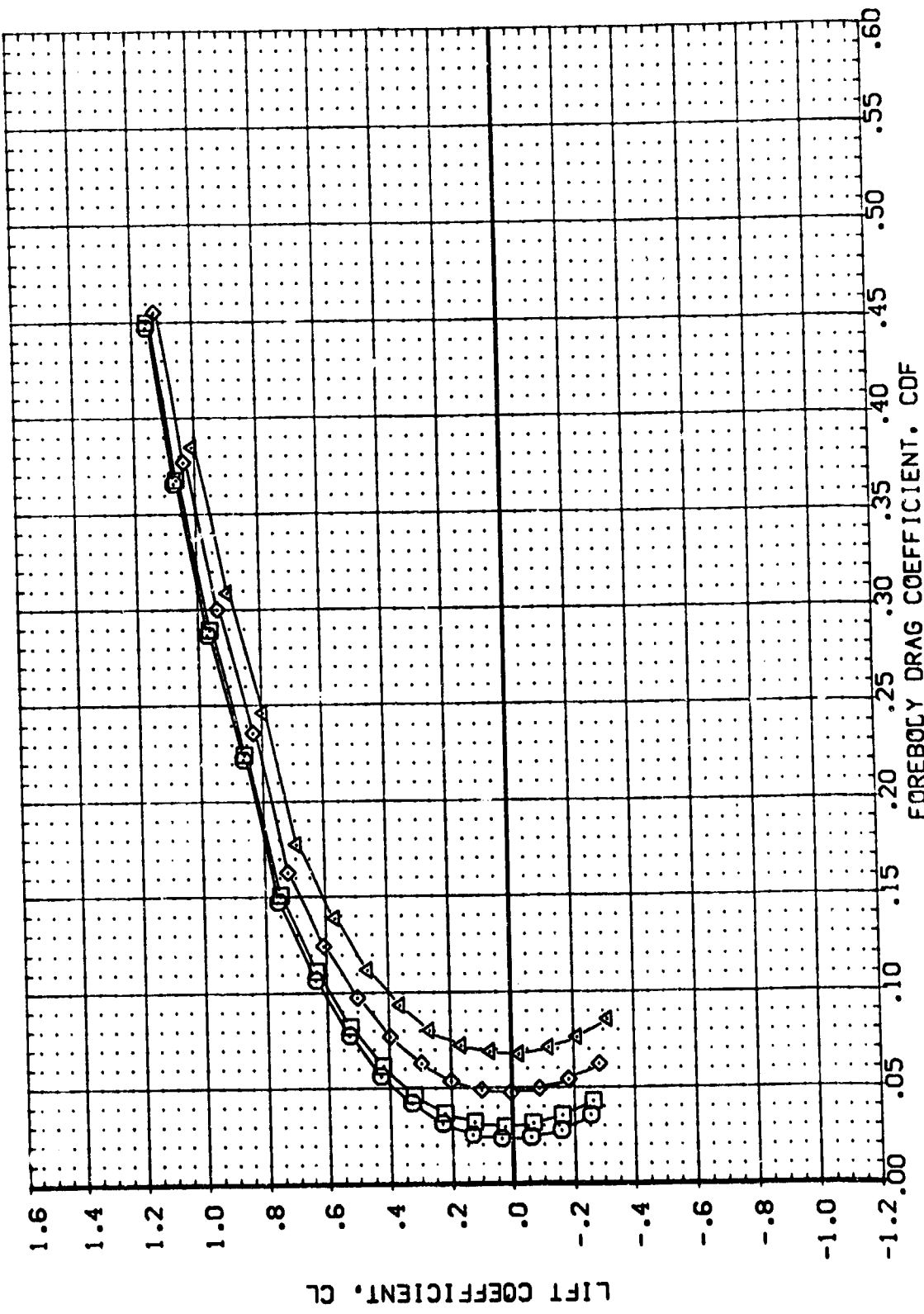


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(10P009)	0A21	817C7	.000	.000	-18.000	.000	SREF 4.4119 50.FT.
(10P022)	0A21	817C7	.000	.000	-18.000	25.000	LREF 19.2299 INCHES
(10P048)	0A21	817C7	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(10P035)	0A21	817C7	.000	.000	-18.000	85.000	XREF 43.5974 INCHES
							YREF 16.2000 INCHES
							ZREF 16.2000 INCHES
							SCALE .0405

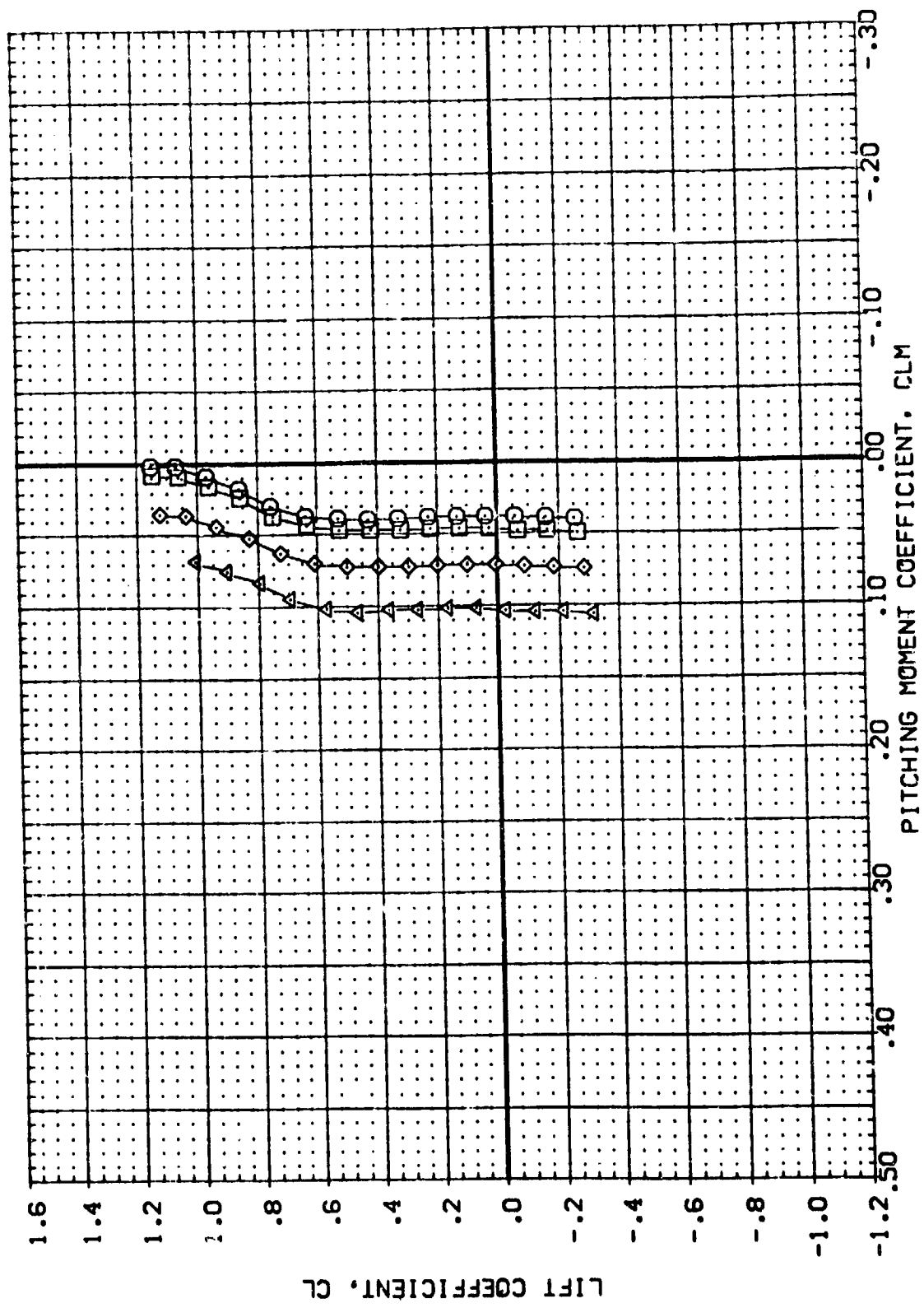


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(A) MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION	SO.FT.
(DP009)	□	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	.000	SREF	4.4119
(DP022)	◇	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	25.000	LREF	19.2299
(DP048)	△	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	BREF	37.9359
(DP035)	○	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	65.000	XMRP	43.5574
							YMRP	.0000
							ZMRP	16.2000
							SCALE	.0405

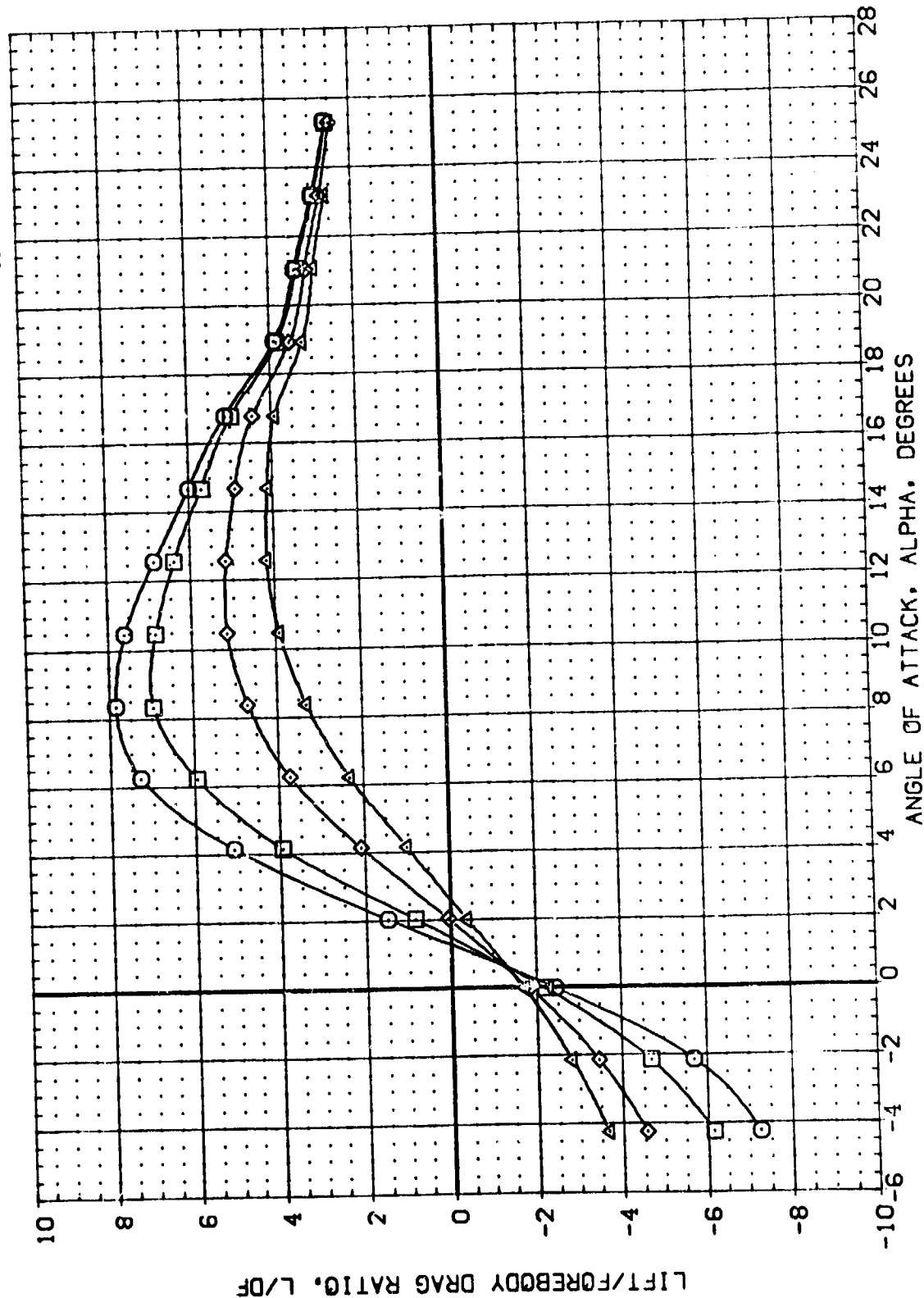


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(DP009)	DA21 B17C7 M4F5 V107E23V7RGX9	.000	.000	-18.000	.000	SREF 4.4119 SQ.FT.
(DP022)	DA21 B17C7 M4F5 V107E23V7RGX9	.000	.000	-18.000	25.000	LREF 19.2298 INCHES
(DP048)	DA21 B17C7 M4F5 V107E23V7RGX9	.000	.000	-18.000	55.000	BREF 37.9359 INCHES
(DP035)	DA21 B17C7 M4F5 V107E23V7RGX9	.000	.000	-18.000	85.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

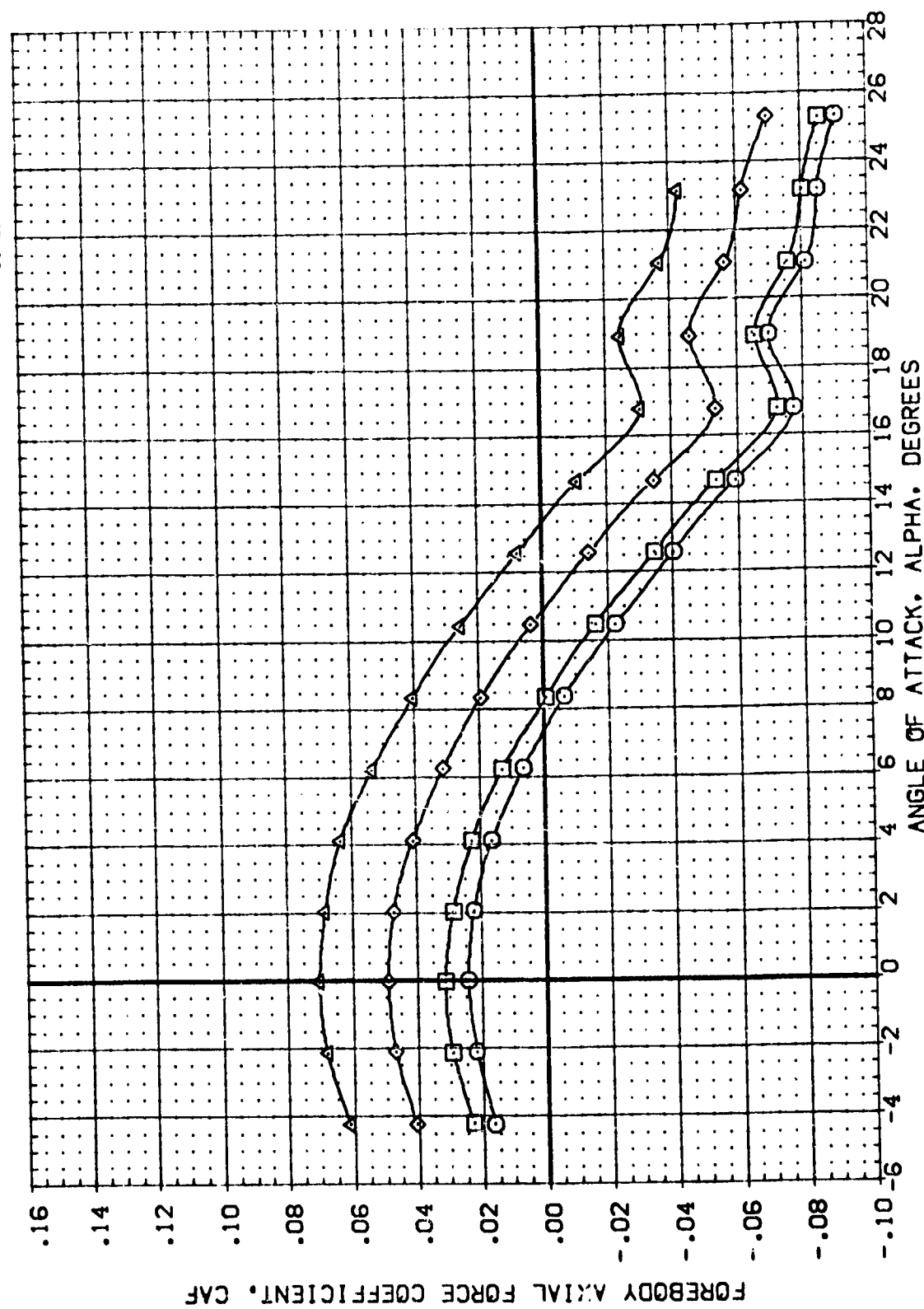


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(M)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP009]	QA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	SREF 4.4119 SQ.FT.
[DP022]	QA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	LREF 19.2298 INCHES
[DP048]	QA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	BREF 37.5358 INCHES
[DP035]	QA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2007 INCHES
						SCALE .0405

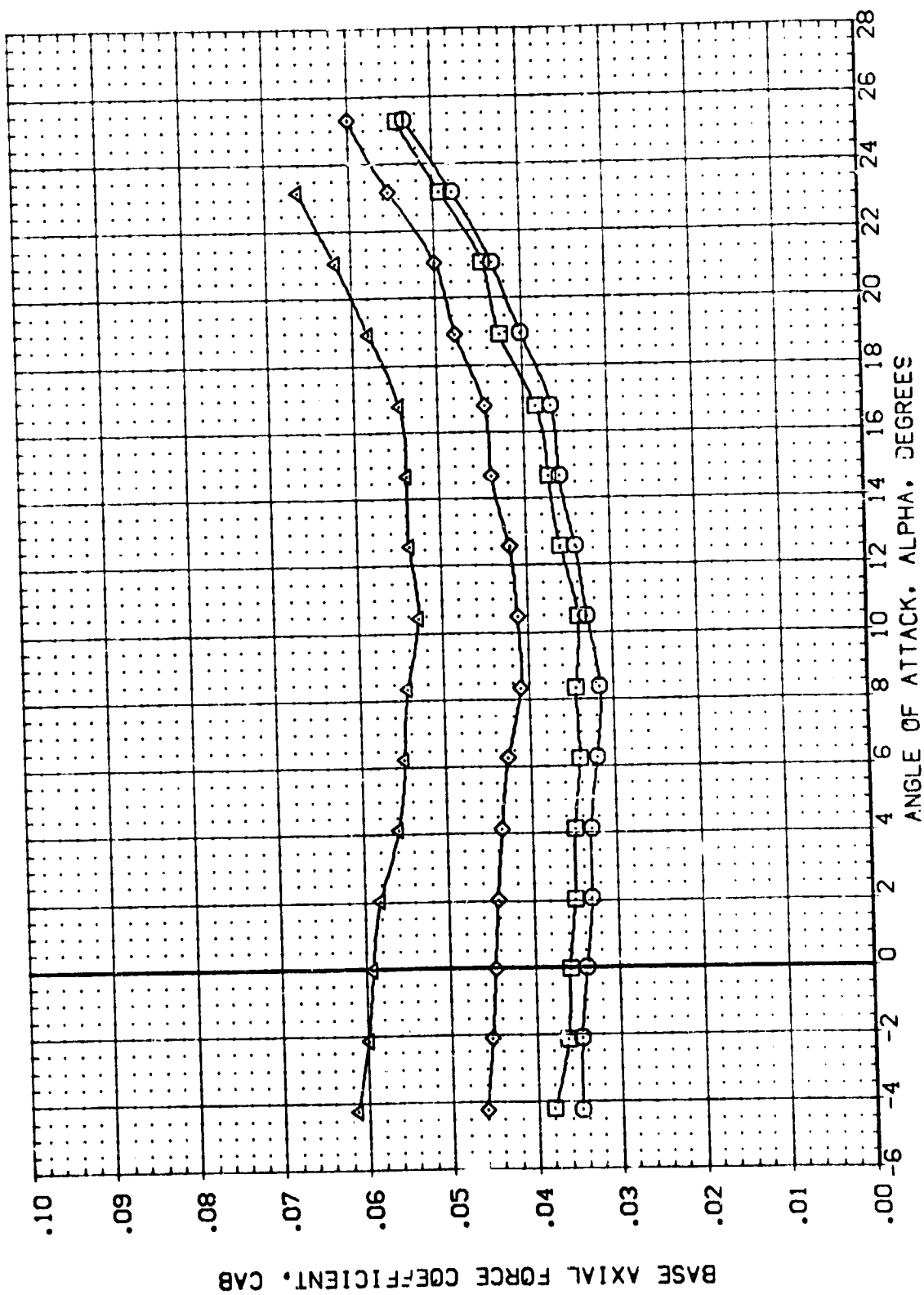


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

[A]MACH = .26

DATA SET SYMBOL	0421	8177	MPS	VI0REZ3V7M0S
DP009	0421	8177	MPS	VI0REZ3V7M0S
DP022	0421	8177	MPS	VI0REZ3V7M0S
DP048	0421	8177	MPS	VI0REZ3V7M0S
DP055	0421	8177	MPS	VI0REZ3V7M0S

ELEVON	ALPHA	SO L AP	SPURK	REFERENCE INFORMATION
0000	0000	-19.000	000	SREF 4.4119
0000	0000	-19.000	25.000	LRFC 19.2259
0000	0000	-19.000	25.000	BRFC 37.9359
0000	0000	-19.000	25.000	PRFC 43.5974
0000	0000	-19.000	25.000	TRFC 16.2000
0000	0000	-19.000	25.000	SCALE 0.045

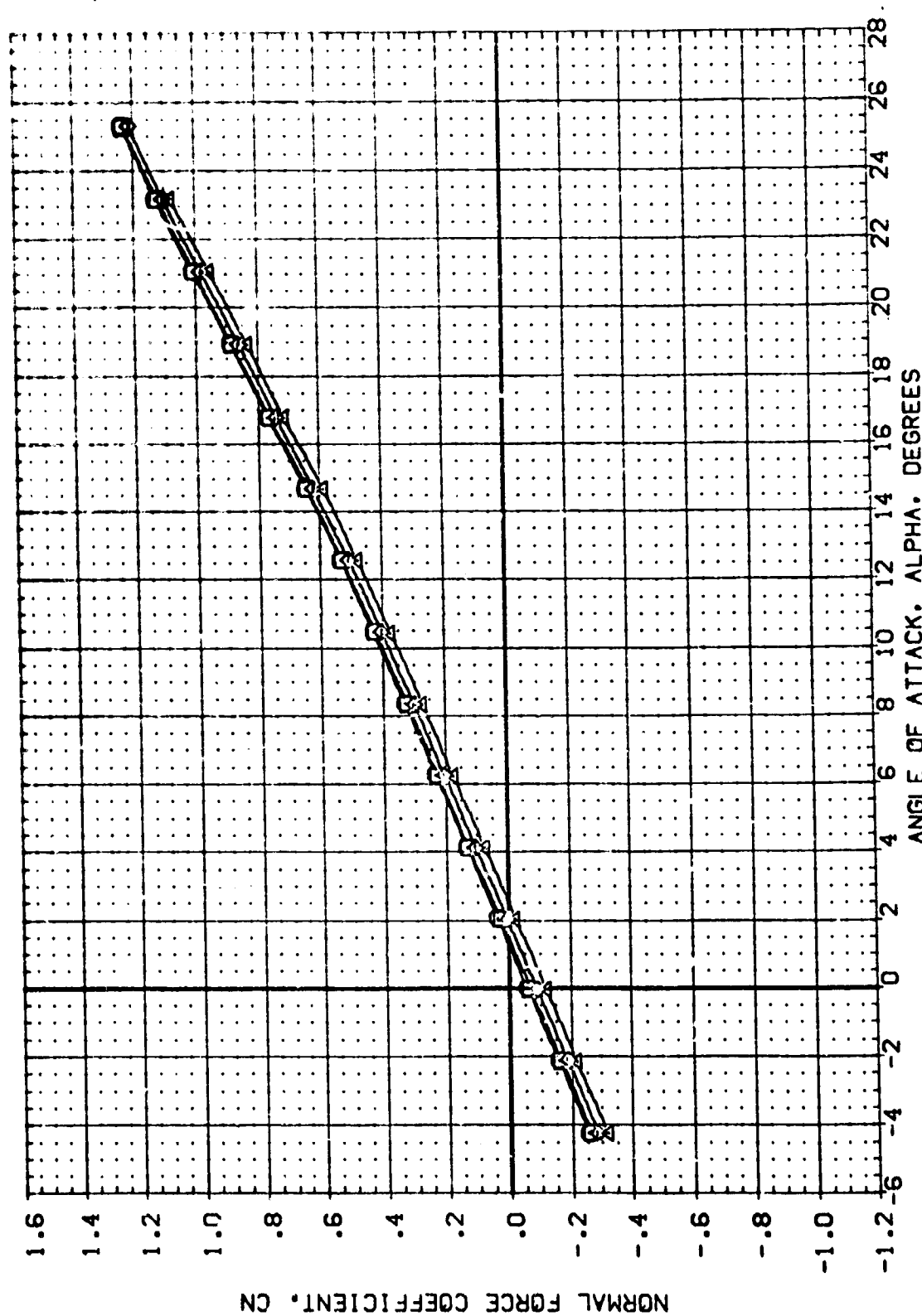


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION	SO, FT.
(1)P009	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	.000	SREF	4.4119
(1)P022	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	25.000	LREF	19.2259
(1)P048	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	BREF	37.9359
(1)P035	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	85.000	YMRP	43.5974
						ZMRP	.0000
						SCALE	16.2000
							.0405

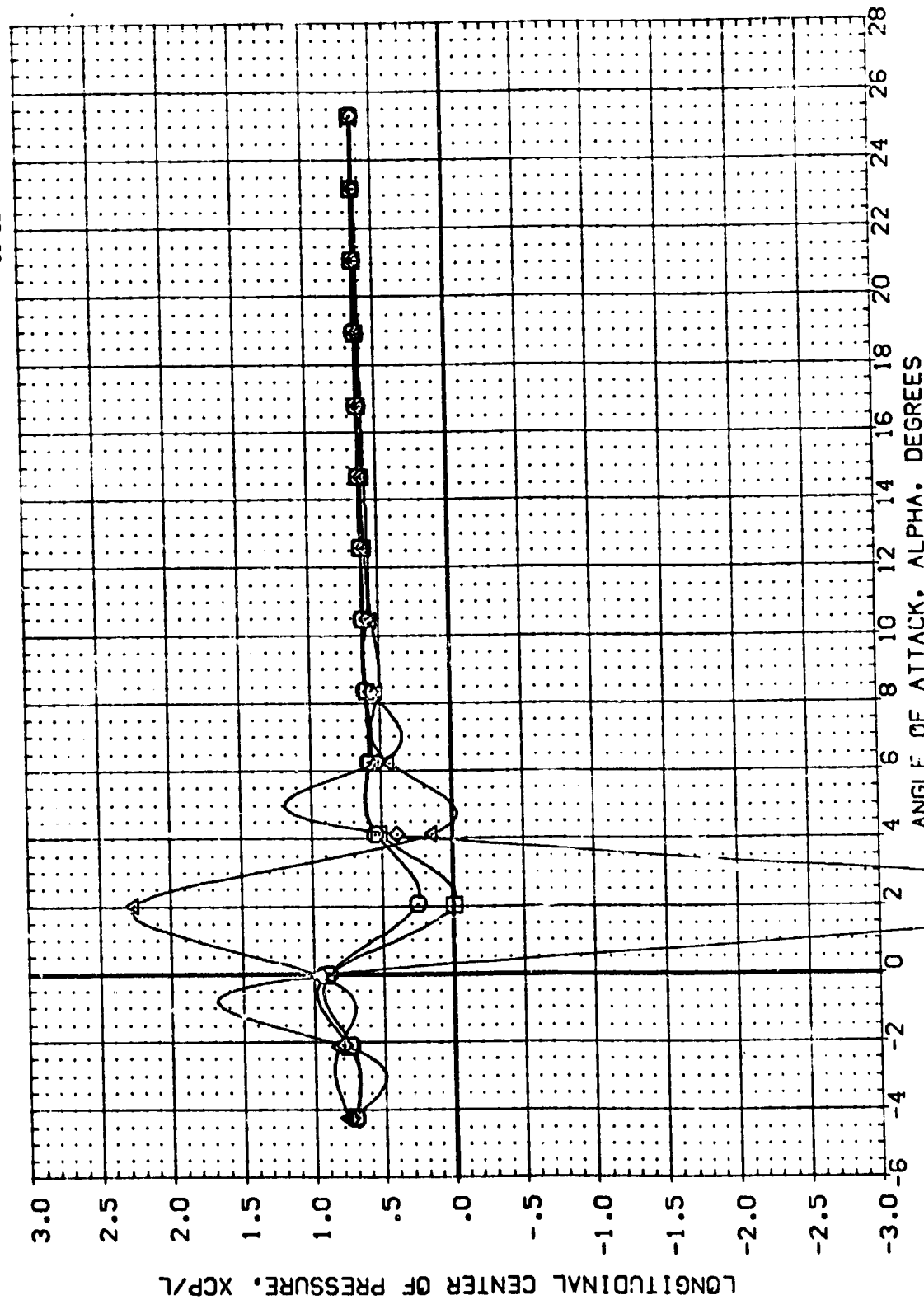


FIGURE 41 LONGITUDINAL EFFECT OF SPEED BRAKE

(A) MACH = .26





DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BD FLAP	SPOBRK	REFERENCE INFORMATION
(DP001)	QAZ1 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP002)	QAZ1 B17C7 M4FS V107E23V7R6X9	.000	.000	.000	55.000	LREF 19.2299 INCHES
(DP003)	QAZ1 B17C7 M4FS V107E23V7R6X9	.000	.000	10.000	55.000	BREF 37.9359 INCHES
(DP007)	QAZ1 B17C7 M4FS V107E23V7R6X9	.000	.000	15.000	55.000	XMRP 43.5974 INCHES
(DP008)	QAZ1 B17C7 M4FS V107E23V7R6X9	.000	.000		55.000	ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

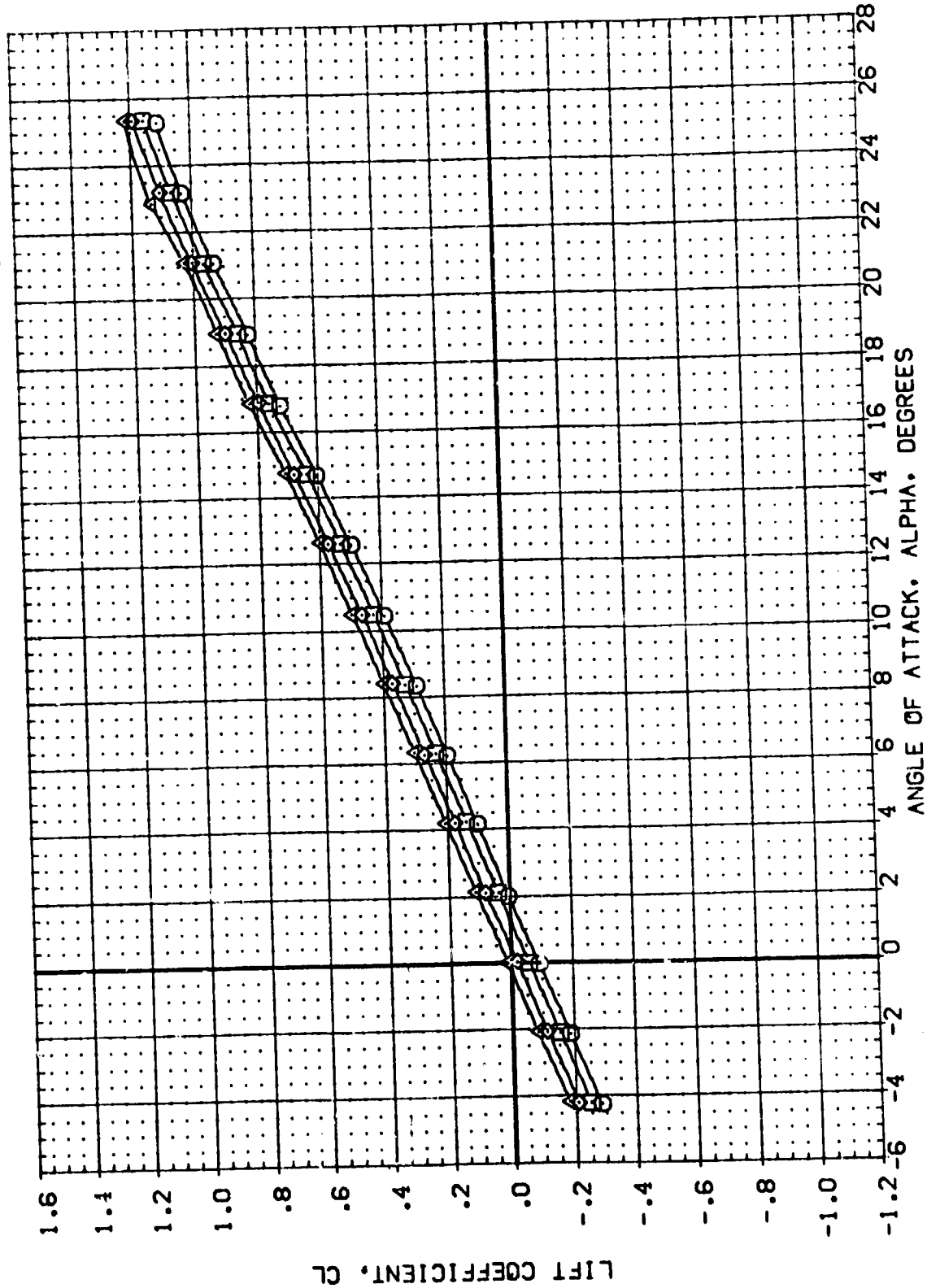


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRBK	REFERENCE INFORMATION
(DP001)	0A21 817C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	4.4119 SC.FT.
(DP005)	0A21 817C7 M4F5 V107E23V7R6X9	.000	.000	10.000	55.000	19.2299 INCHES
(DP007)	0A21 817C7 M4F5 V107E23V7R6X9	.000	.000	15.000	55.000	37.9359 INCHES
(DP008)	0A21 817C7 M4F5 V107E23V7R6X9	.000	.000		55.000	43.5974 INCHES
						16.2000 INCHES
						SCALE
						SCALE

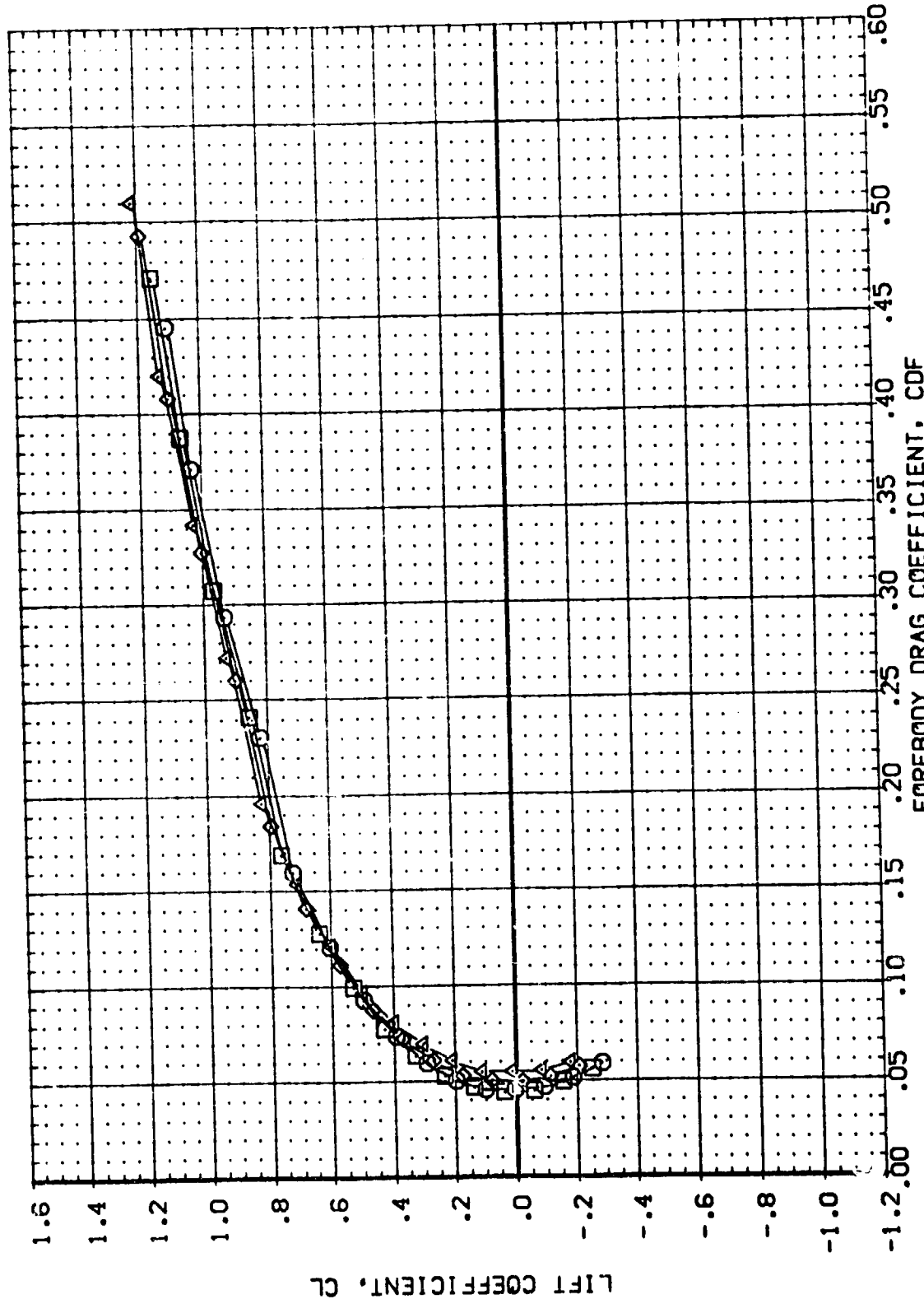


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26 PAGE 402

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(IDP001)	0A21 817C7 M4F5 V107E23V/TR6X9
(IDP006)	0A21 817C7 M4F5 V107E23V/TR6X9
(IDP007)	0A21 817C7 M4F5 V107E23V/TR6X9
(IDP008)	0A21 817C7 M4F5 V107E23V/TR6X9

REFERENCE INFORMATION

REFERENCE INFORMATION	SO.FT.	INCHES
SREF	4.4119	INCHES
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XPRP	43.5974	INCHES
YPRP	.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	SCALE

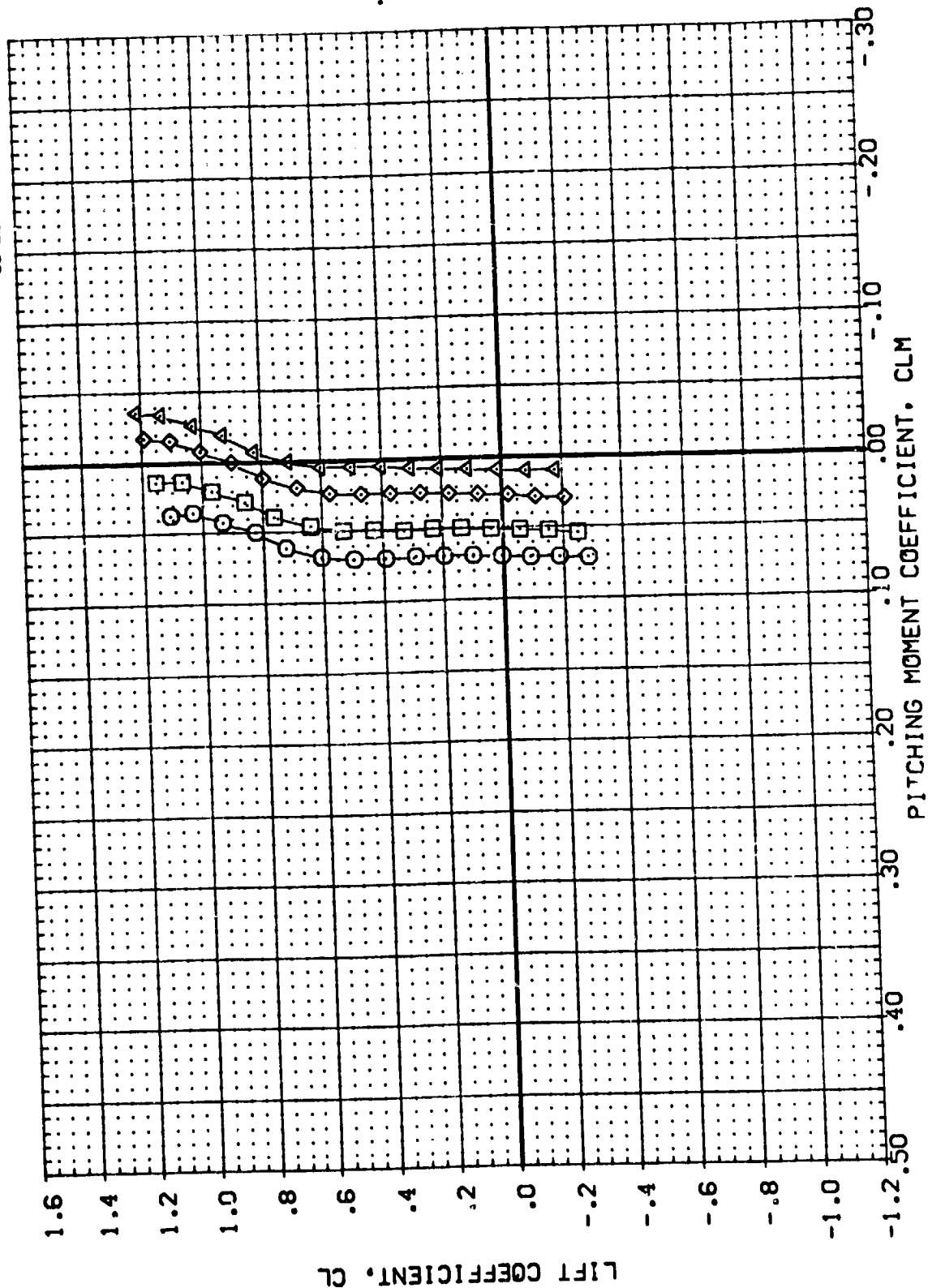


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOILER	REFERENCE INFORMATION
(IDP001)	DA21 B17C7 MAFS VI07E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 50.FT
(IDP006)	DA21 B17C7 MAFS VI07E23V7R6X9	.000	.000	.000	55.000	LREF 19.2259 INCHES
(IDP007)	DA21 B17C7 MAFS VI07E23V7R6X9	.000	.000	10.000	55.000	BREF 37.9359 INCHES
(IDP008)	DA21 B17C7 MAFS VI07E23V7R6X9	.000	.000	15.000	55.000	YMRP 43.5574 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES

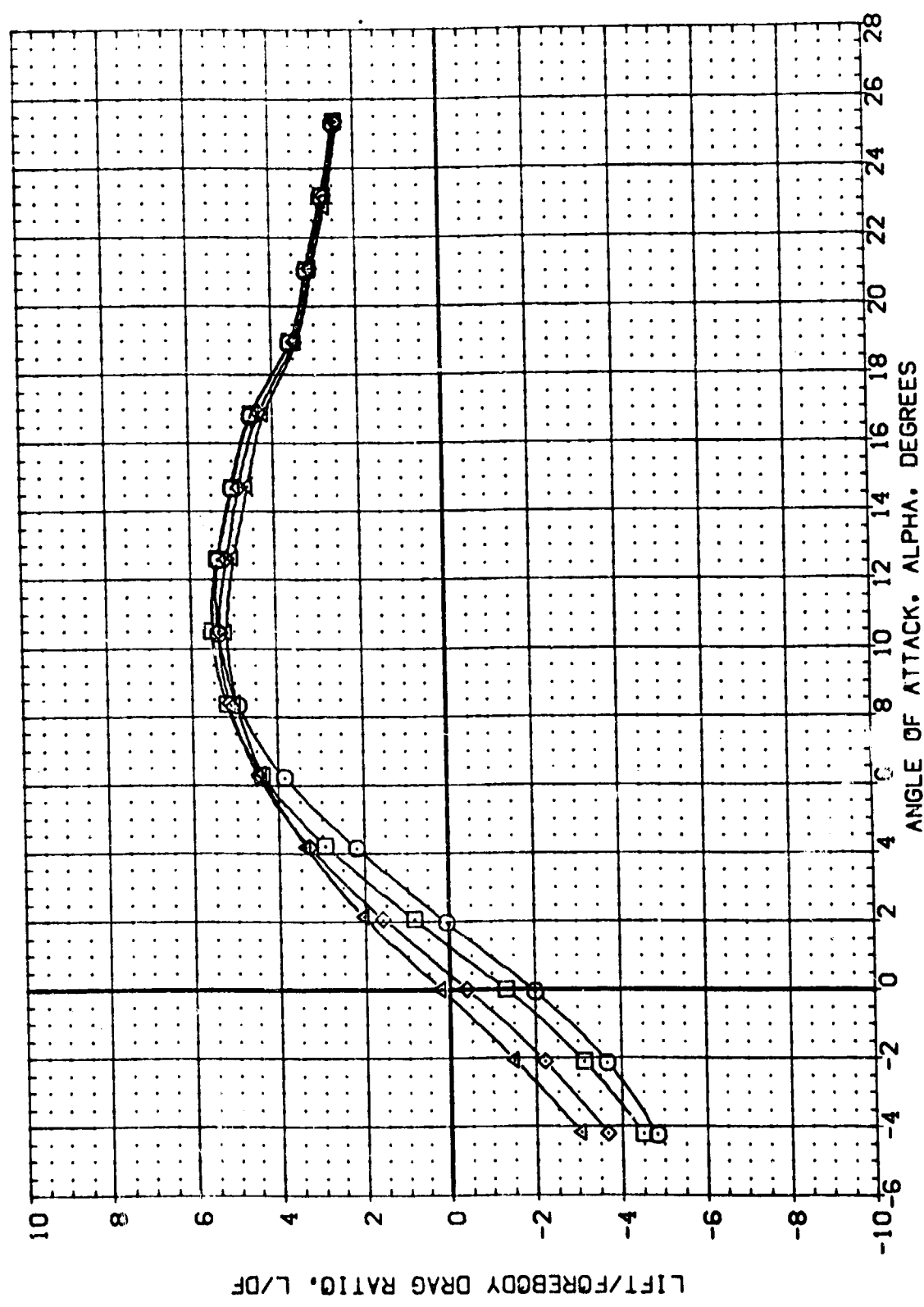


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(1DPO01)	DA21 B17C7	M4FS	V107E23V7R6X9
(1DPO06)	DA21 B17C7	M4FS	V107E23V7R6X9
(1DPO07)	DA21 B17C7	M4FS	V107E23V7R6X9
(1DPO08)	DA21 B17C7	M4FS	V107E23V7R6X9

ELEVON    ALLRON    BOFLAP    SPOBRK

.000	.000	-18.000	55.000
.000	.000	.000	55.000
.000	.000	10.000	55.000
.000	.000	15.000	55.000

REFERENCE INFORMATION

SREF	4.4119	50. FT.
LREF	19.2259	INCHES
BREF	37.9359	INCHES
XPRP	43.5974	INCHES
YPRP	16.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	INCHES

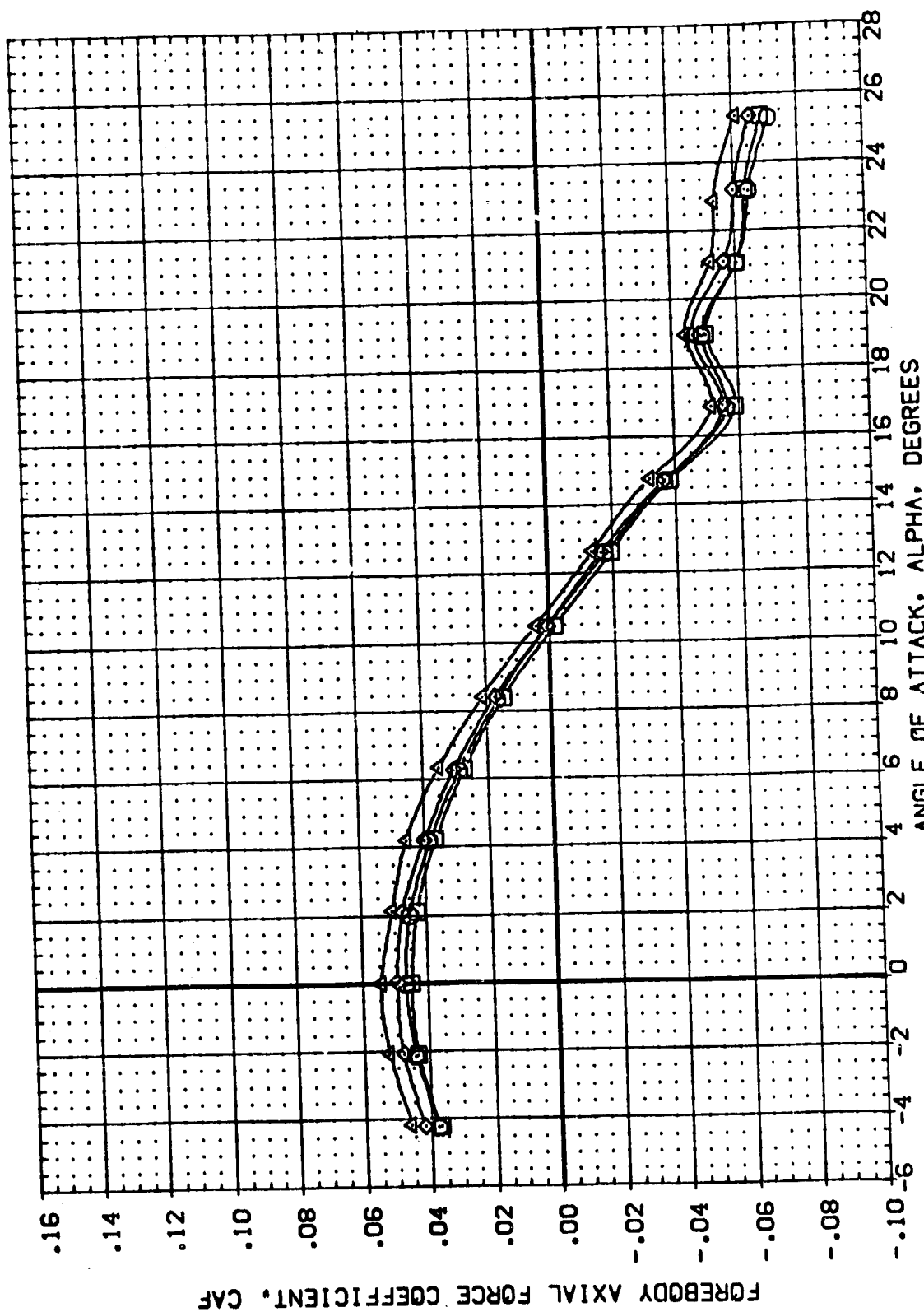


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BD FLAP	SPOBRK	REFERENCE INFORMATION
(DP001)	DA21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(DP006)	DA21 B17C7 M4F5 V107E23V7R6X9	.000	.000	.000	55.000	LREF 19.2298 INC-ES
(DP007)	DA21 B17C7 M4F5 V107E23V7R6X9	.000	.000	10.000	55.000	BREF 37.9359 INC-ES
(DP008)	DA21 B17C7 M4F5 V107E23V7R6X9	.000	.000	15.000	55.000	XHREF 43.5974 INC-ES
						YHREF .0000 INC-ES
						ZHREF 16.2000 INC-ES
						SCALE .0405

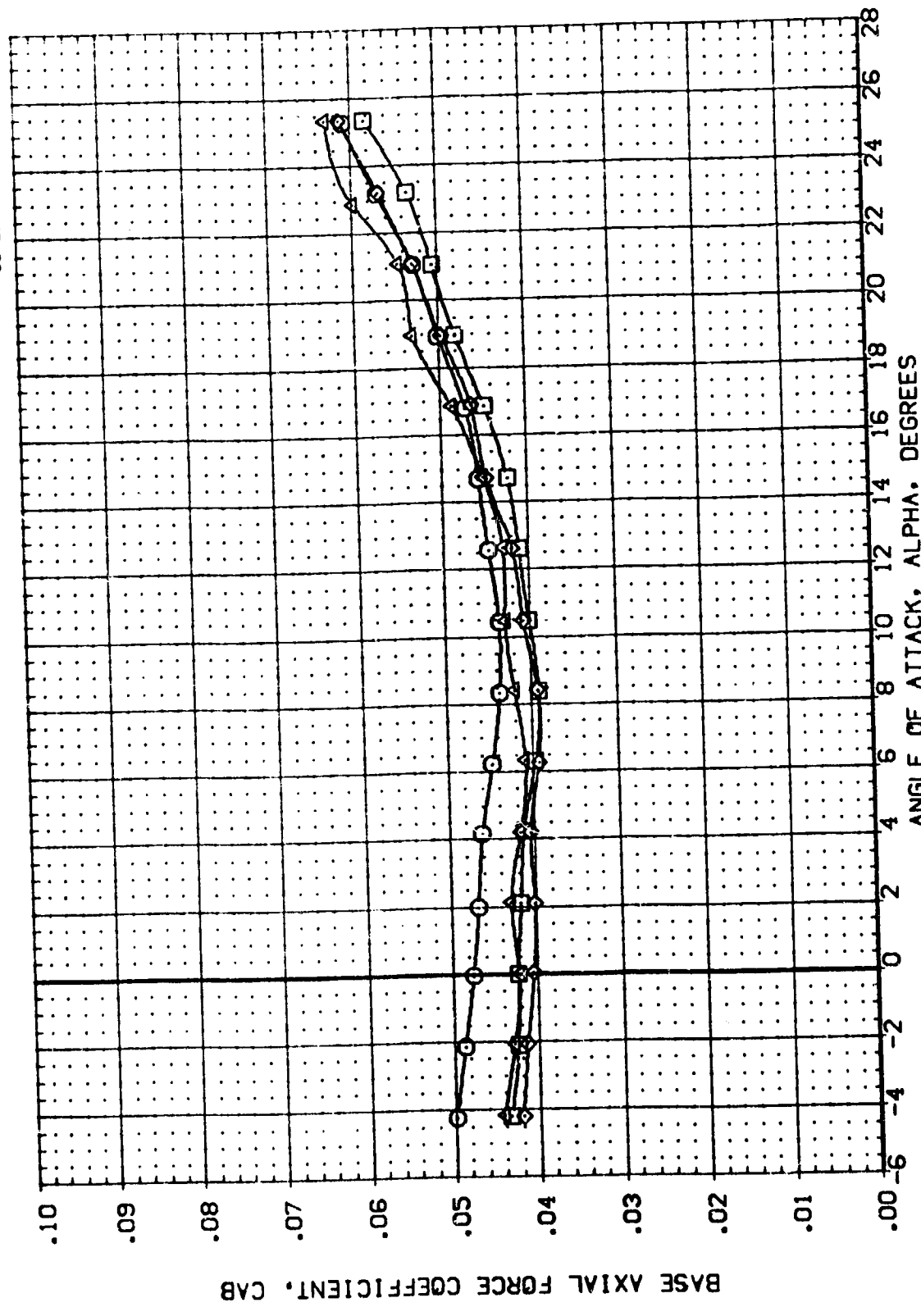


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPODBK	REFERENCE INFORMATION
(1D001)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	4.4119 SO.FT.
(1D006)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	10.000	55.000	19.2299 INCHES
(1D007)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	10.000	55.000	37.9359 INCHES
(1D008)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	15.000	55.000	43.5974 INCHES
						16.2000 INCHES
						SCALE .0405

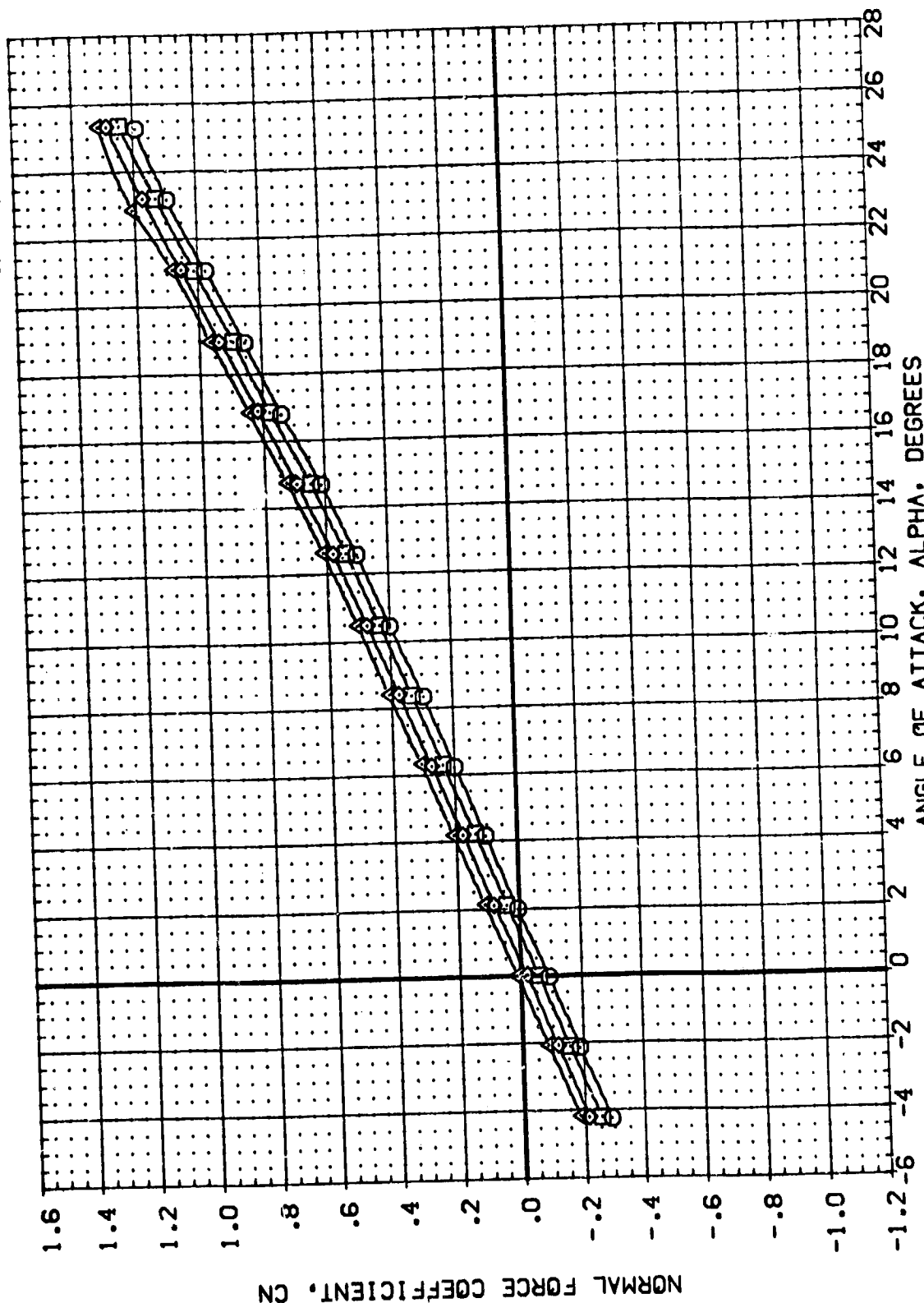


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AIRLON	BOFLAP	SPDRK	REFERENCE INFORMATION
(1D-001)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	-18.000	55.000	SREF 4.4119 SQ.FT.
(1D-006)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	.000	55.000	LREF 19.2293 INCHES
(1D-007)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	10.000	55.000	BREF 37.9359 INCHES
(1D-008)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	15.000	55.000	TRAP 43.5974 INCHES
						ZTRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

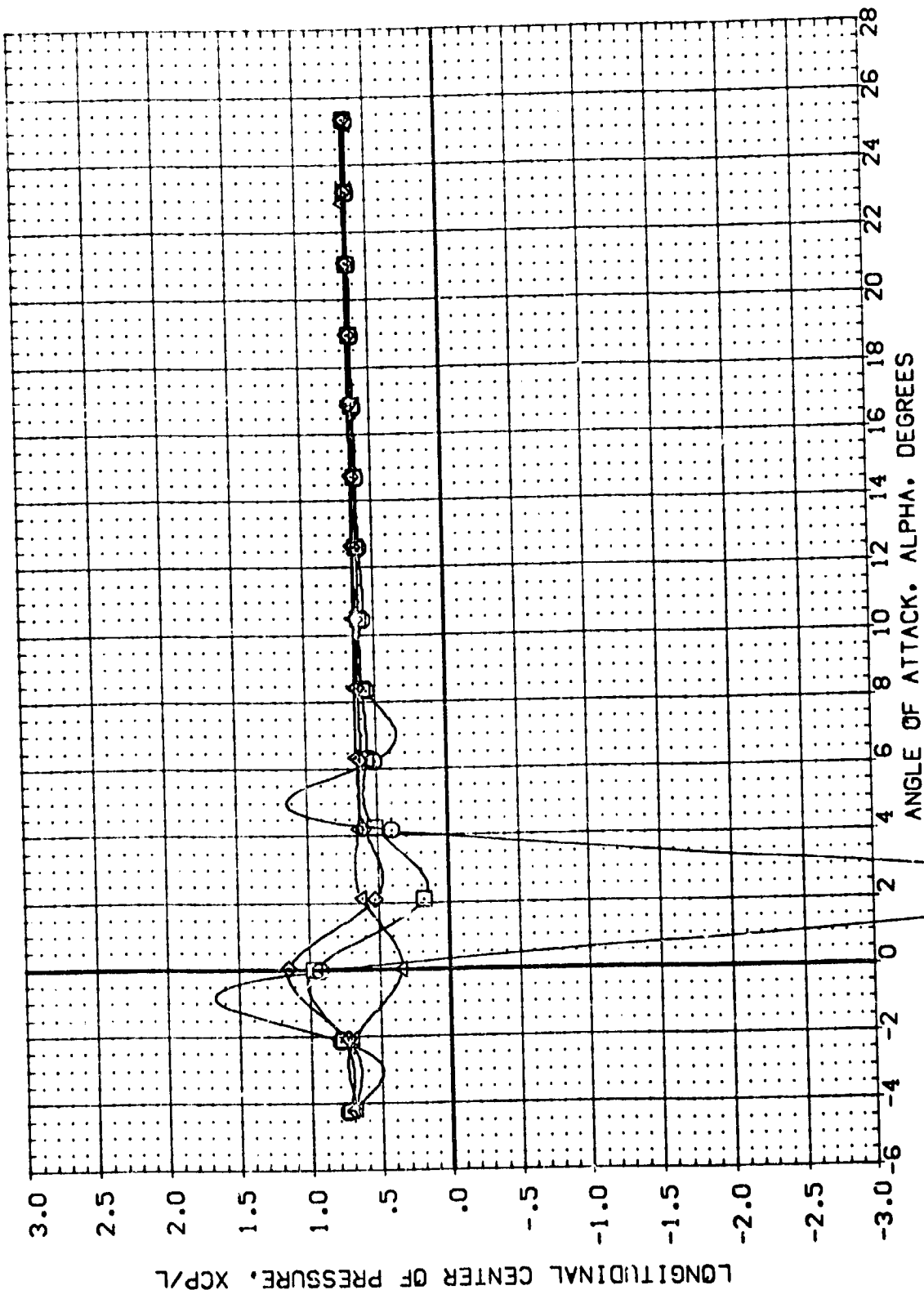


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
[DP001]	0A21	B17C7	.000	.000	-18.000	55.000	SREF 4.4119 SO.FT.
[DP006]	0A21	B17C7	.000	.000	.000	55.000	LREF 19.2299 INCHES
[DP007]	0A21	B17C7	.000	.000	10.000	55.000	BREF 37.9359 INCHES
[DP008]	0A21	B17C7	.000	.000	15.000	55.000	YMRP 43.5974 INCHES
							YMRP .0000 INCHES
							ZMRP 16.2000 INCHES
							SCALE .0405

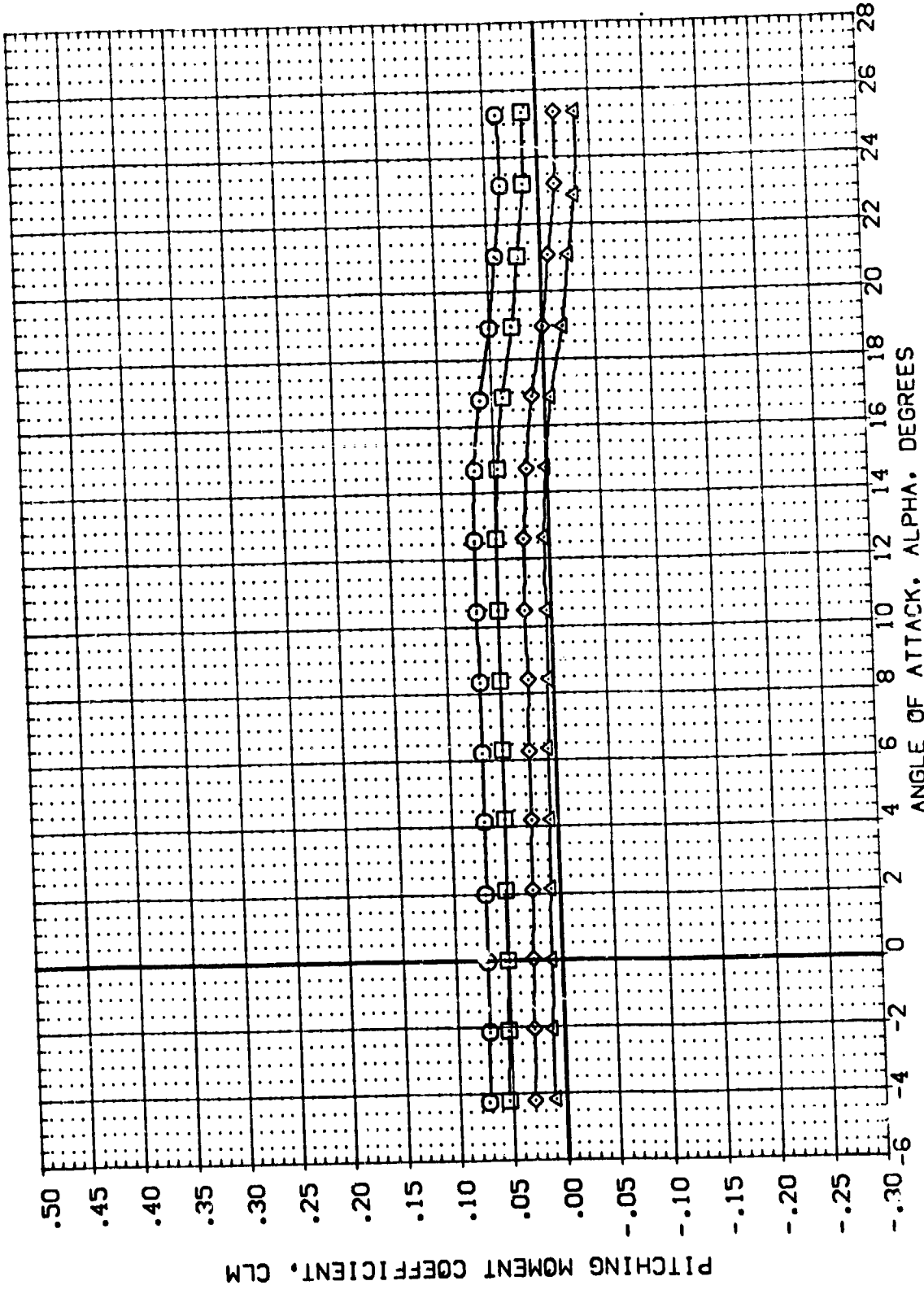


FIGURE 42 LONGITUDINAL EFFECT OF BODY FLAP DEFLECTION

(A)MACH = .26

DATA SET SYMBOL  
 (1DP077)  
 (1DP001)

CONFIGURATION DESCRIPTION  
 QA21 B17C7 F5 V107E23V7R6X9  
 QA21 B17C7 M4F5 V107E23V7R6X9

ELEVON  
 .000  
 .000

AIRLON  
 .000  
 .000

BOFLAP  
 -18.000  
 -18.000

SPOBRK  
 55.000  
 55.000

REFERENCE INFORMATION:  
 SREF 4.4119 SQ FT.  
 LREF 19.2299 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

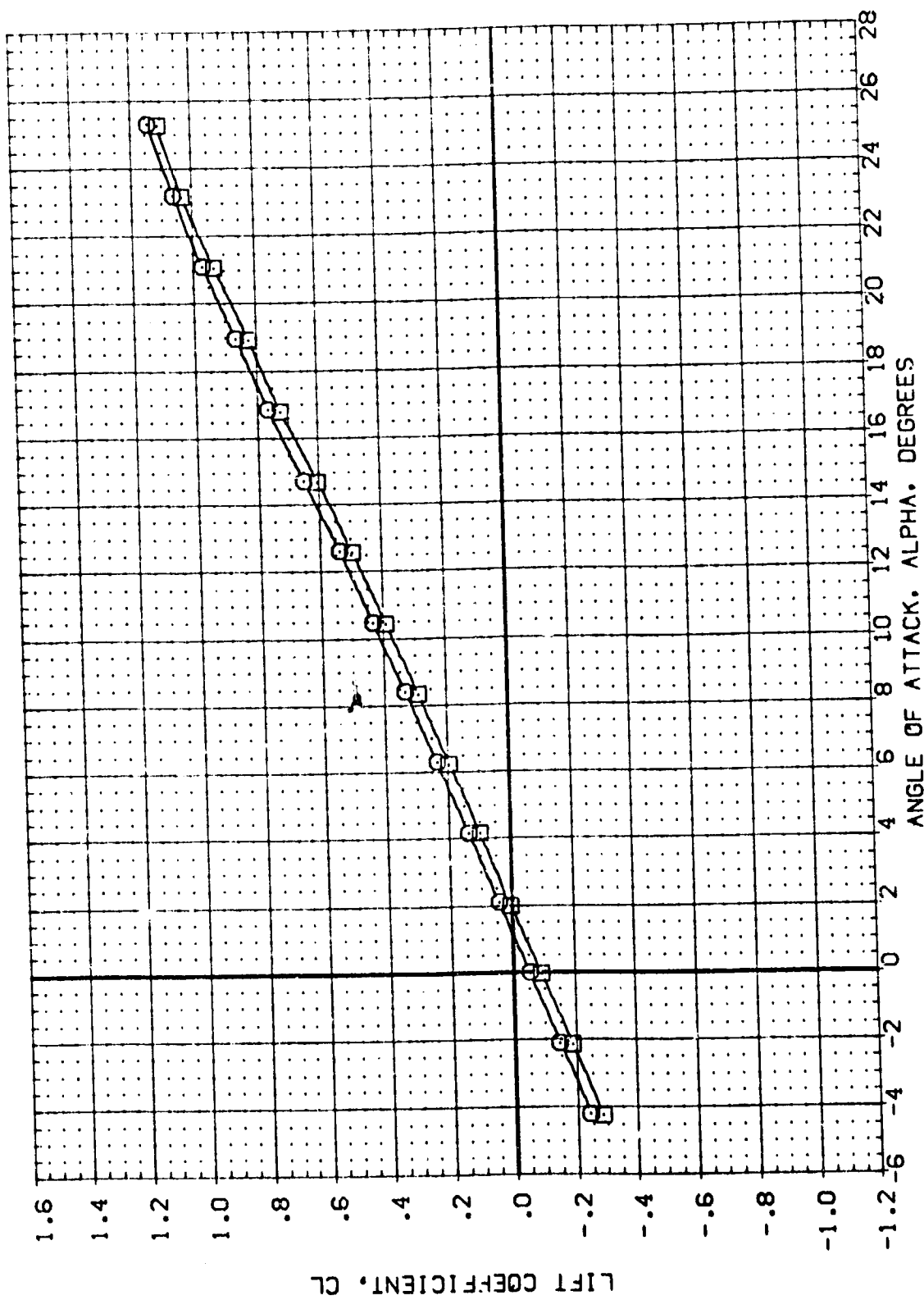


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

(A)MACH = .26

DATA SET SYMBOL: 0A21 817C7 M4F5 V10723V7R6X9  
 ([DP077]) ([DP001])

CONFIGURATION DESCRIPTION  
 0A21 817C7 M4F5 V10723V7R6X9

ELEVON .000 .000  
 AILRON .000 .000  
 BOFLAP -18.000 -18.000  
 SPOBRK 55.000 55.000

REFERENCE INFORMATION  
 SREF 4.4115 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5971 INCHES  
 YMRP 16.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

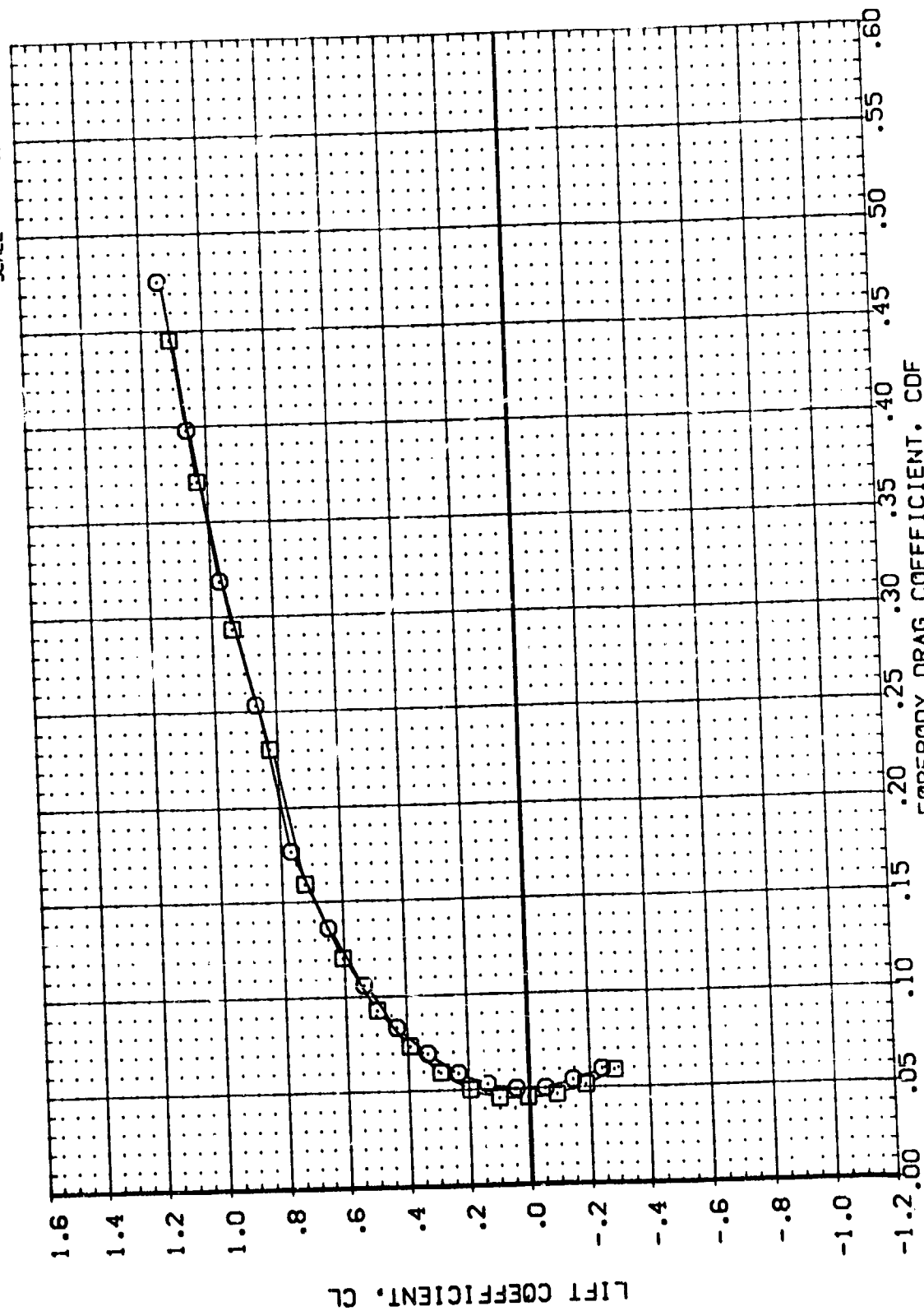


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

(A) MACH = .26

DATA SET SYMBOL (IDP077) □

CONFIGURATION DESCRIPTION  
 DA21 817C7 MAFS V107E23V7R6X9  
 DA21 817C7 MAFS V107E23V7R6X9

ELEVON .000  
 AILERON .000  
 BOFLAP -18.000  
 SPOILER 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2759 INCHES  
 BREF 37.5359 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2030 INCHES  
 SCALE

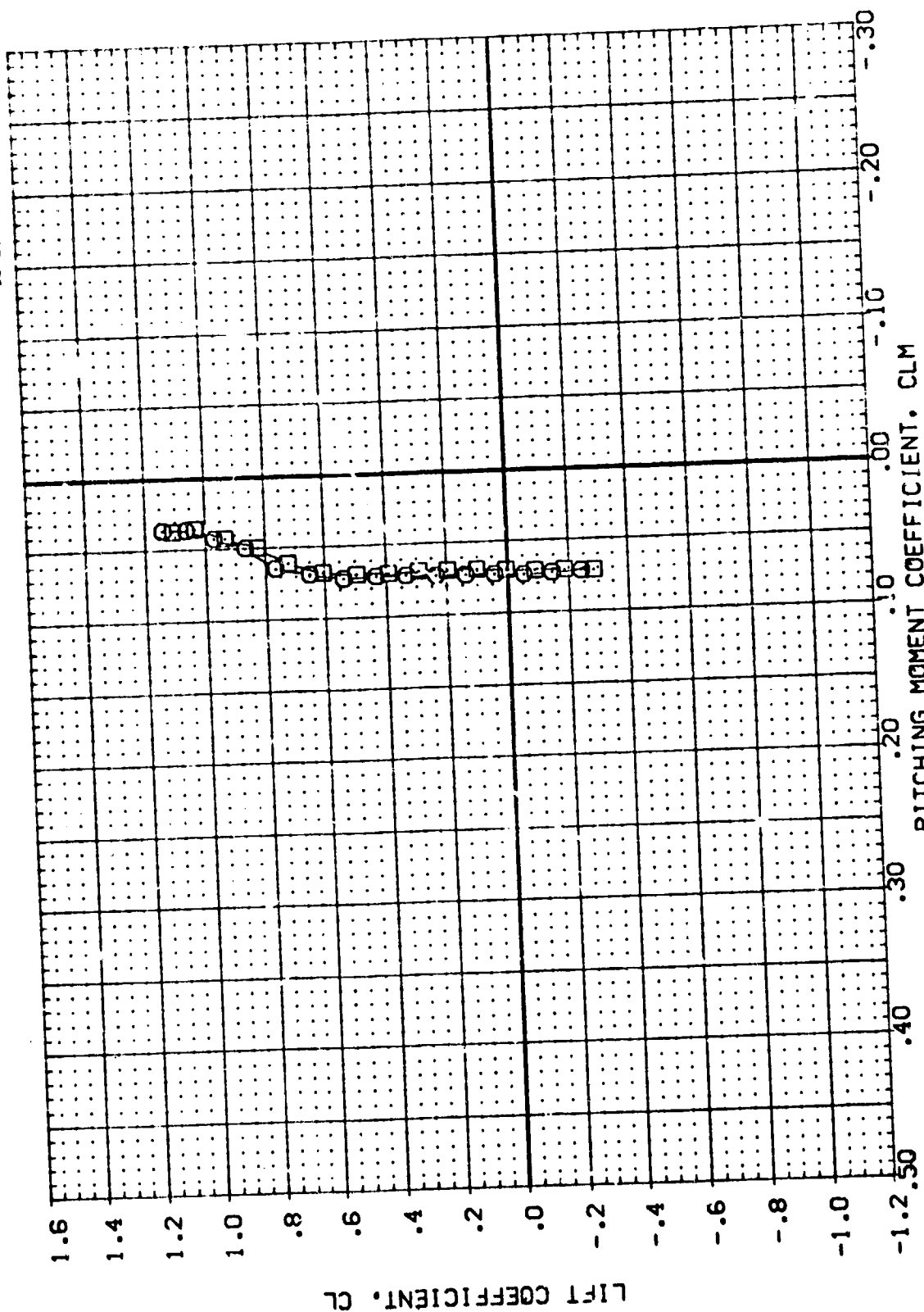


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

(A)MACH = .26

DATA SET SYMBOL  
(19077)  
(19001)

CONFIGURATION DESCRIPTION  
0A21 817C7 FS V107E23V7R6X9  
0A21 817C7 MAFS V107E23V7R6X9

ELEVON  
.000  
.000

AILERON  
.000  
.000

BOFLAP  
-18.000  
-18.000

SPOBRK  
55.000  
55.000

REFERENCE INFORMATION  
SQ.FT.  
4.4119  
INCHES  
19.2298  
INCHES  
37.5359  
INCHES  
43.5974  
INCHES  
16.2000  
INCHES  
16.2000  
INCHES  
SCALE  
.0405

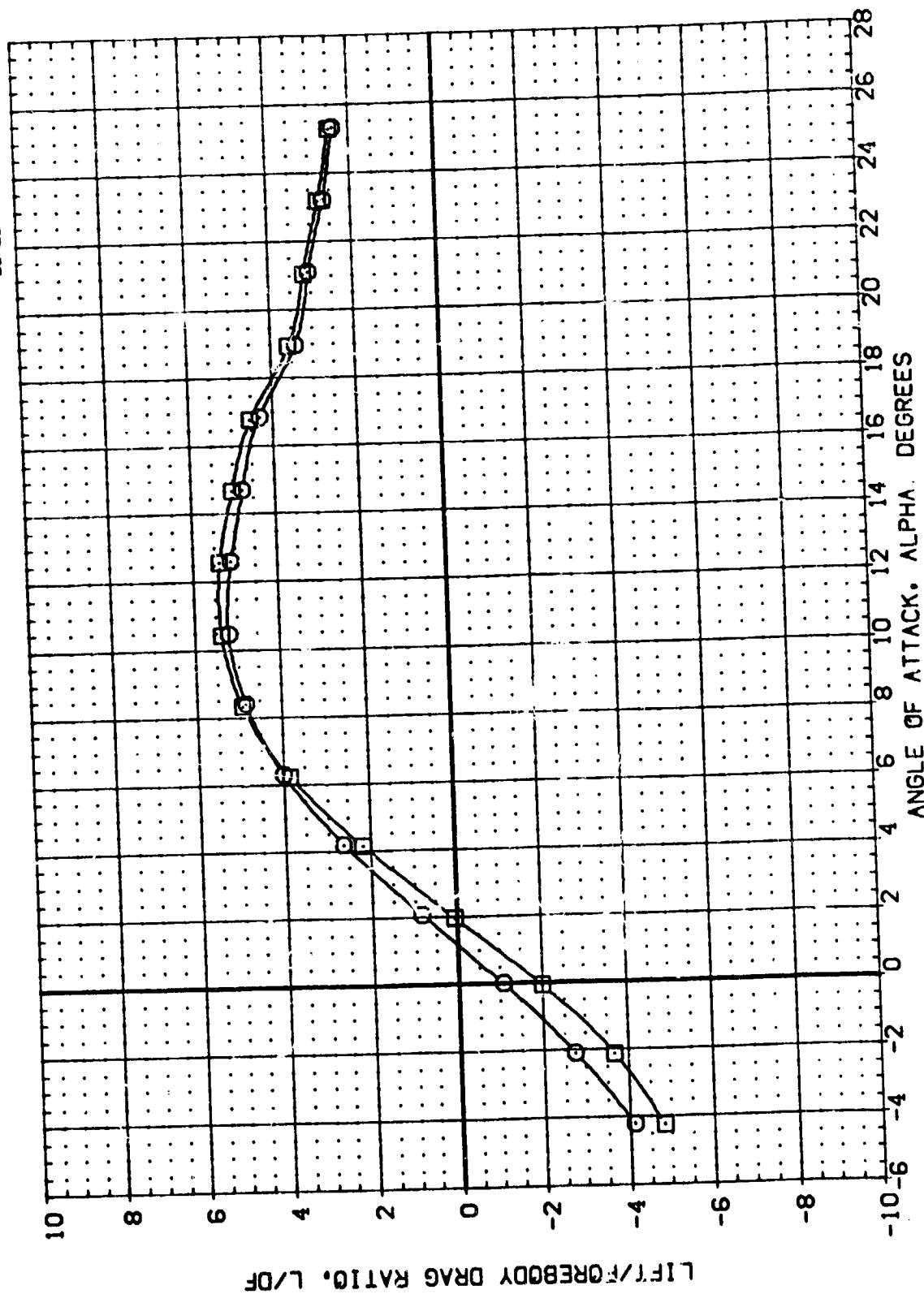


FIGURE 43 LONGITUDINAL EFFECT OF OMS P00

(A)MACH = .26

DATA SET SYMBOL: (1DP001)  
 CONFIGURATION DESCRIPTION: 0A21 817C7 FS V107E23/7R6X8  
 0A21 817C7 M4FS V107E23/7R6X8

ELEVON: .000  
 ALLRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000

REFERENCE INFORMATION:  
 SREF: 4.4119 50. FT.  
 LREF: 19.2289 INCHES  
 BREF: 37.3359 INCHES  
 XMRP: 43.5974 INCHES  
 YMRP: .0000 INCHES  
 ZMRP: 16.2000 INCHES  
 SCALE: .0405

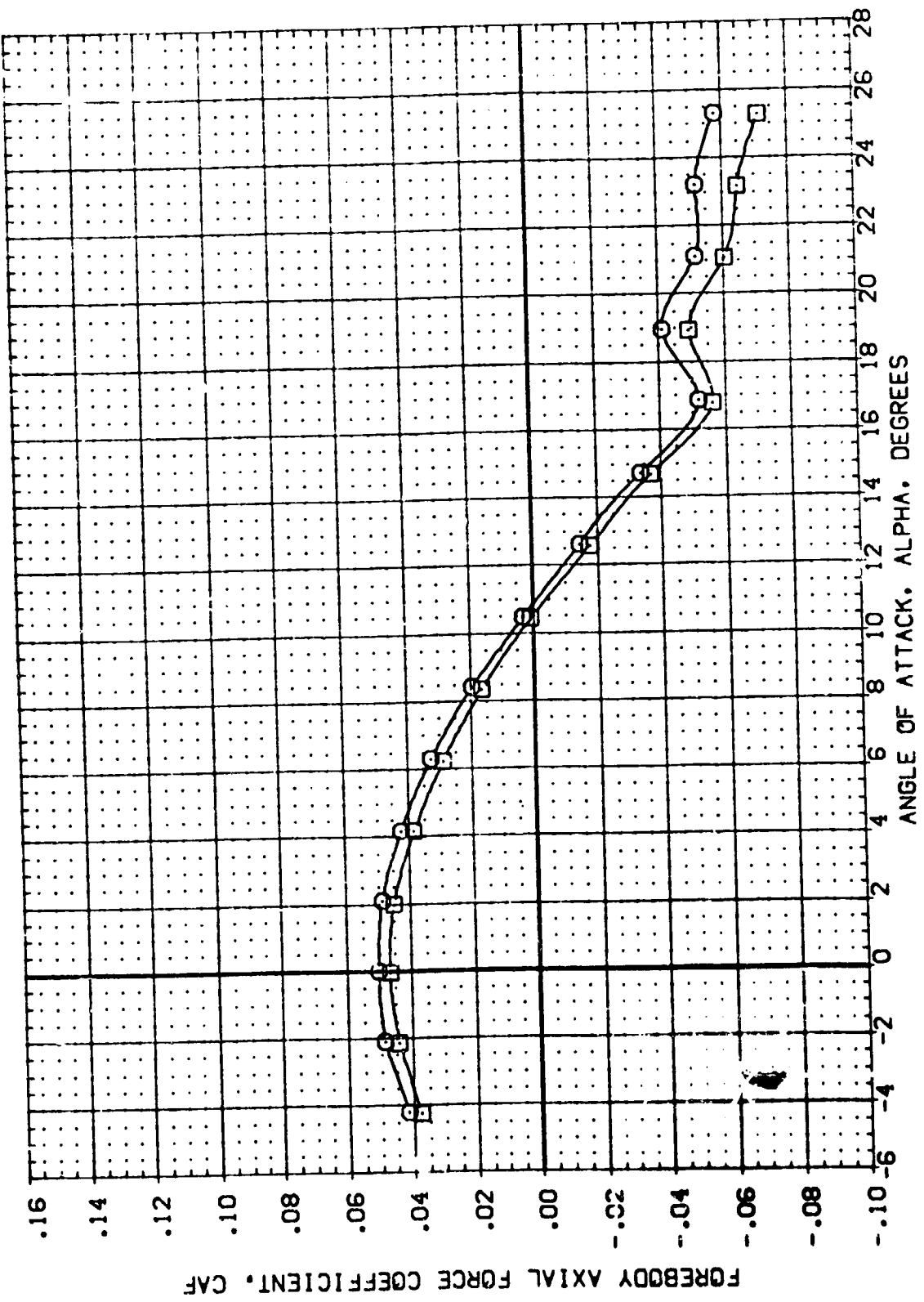


FIGURE 43 LONGITUDINAL EFFECT OF OMS P00

(A)MACH = .26

DATA SET SYMBOL CONF GURATICN DESCRIPTION  
 (1DP077) 0A2! 817C7 FS V107E23V7R6X9  
 (1DP001) 0A2! 817C7 MFS V107E23V7R6X9

ELEVON AILRON BDF LAP SPDBRK  
 .000 .000 -18.000 55.000  
 .000 .000 -18.000 55.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 YMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

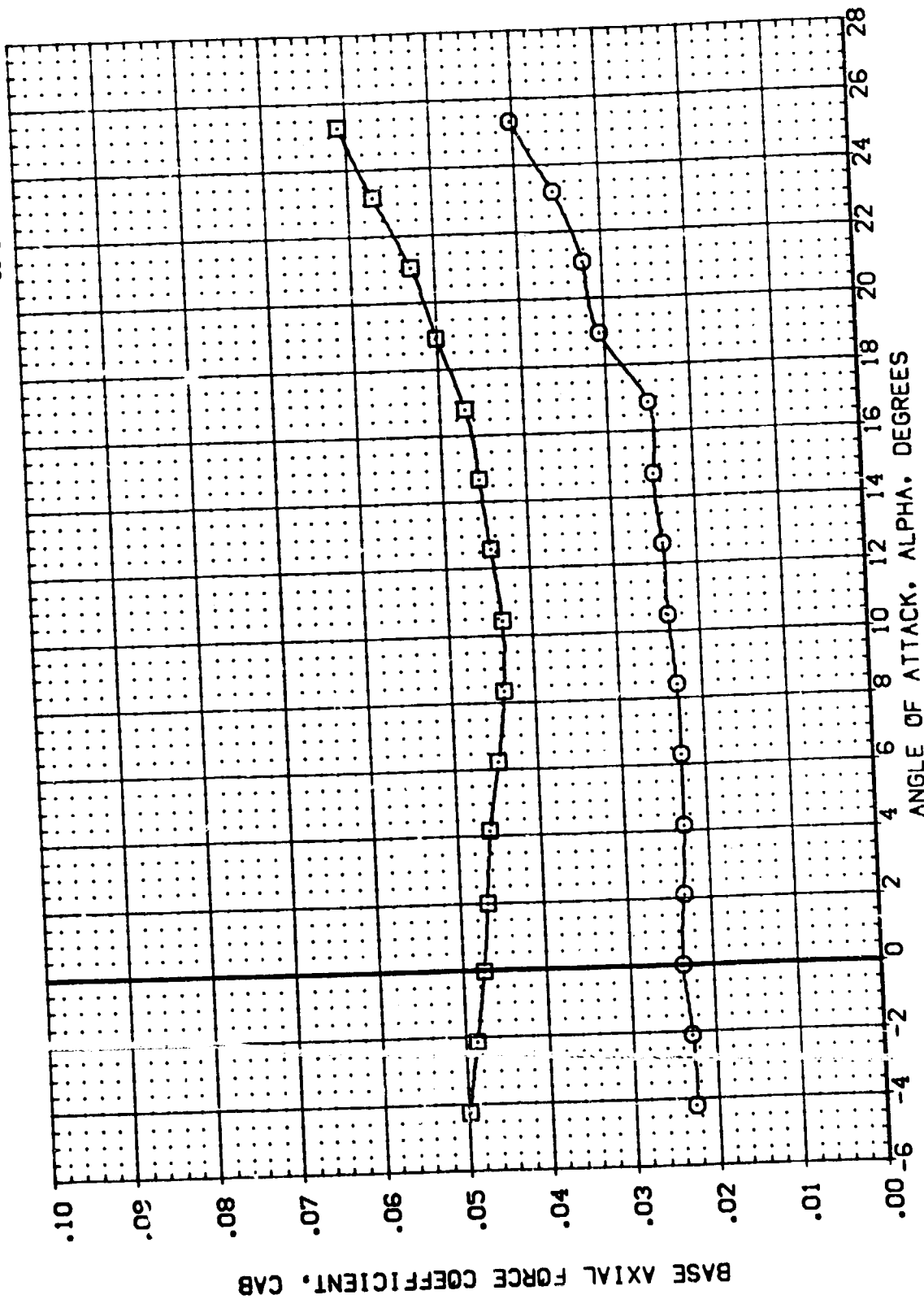


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

(A)MACH = .26



LEVEL	FLIR	BOFLAP	SPOB	REFERENCE INFORMATION	SO. FT.
0.000	0.000	0.000	SREF	14.4119	INCHES
0.000	0.000	55.000	LREF	19.2799	INCHES
0.000	0.000	55.000	BREF	37.9359	INCHES
			XTRP	43.5974	INCHES
			YTRP	0.000	INCHES
			ZTRP	16.2000	INCHES
			SCALE	.0405	SCALE

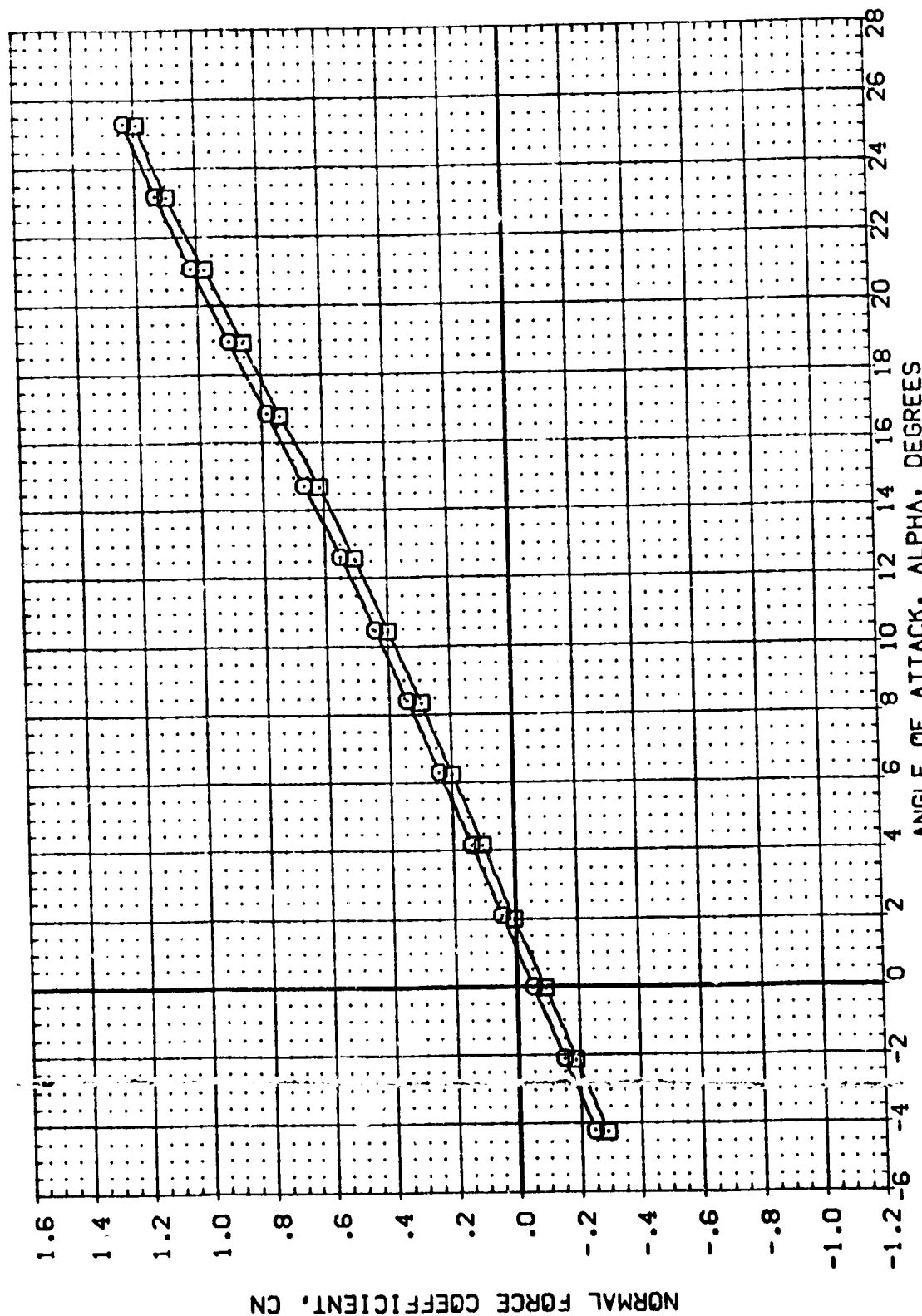


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

$$C_A)_{MACH} = 0.26$$

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(1DP077)	□	0A21	B17C7	F5	V107E23V7R6X9
(1DP001)	□	0A21	B17C7	M4FS	V107E23V7R6X9

ELEVON	A1LRON	BOFLAP	SPDBRK
.000	.000	-18.000	55.000
.000	.000	-18.000	55.000

SREF	4.4119	50. FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XTRP	43.5974	INCHES
YTRP	.0000	INCHES
ZTRP	16.2000	INCHES
SCALE	.0405	SCALE

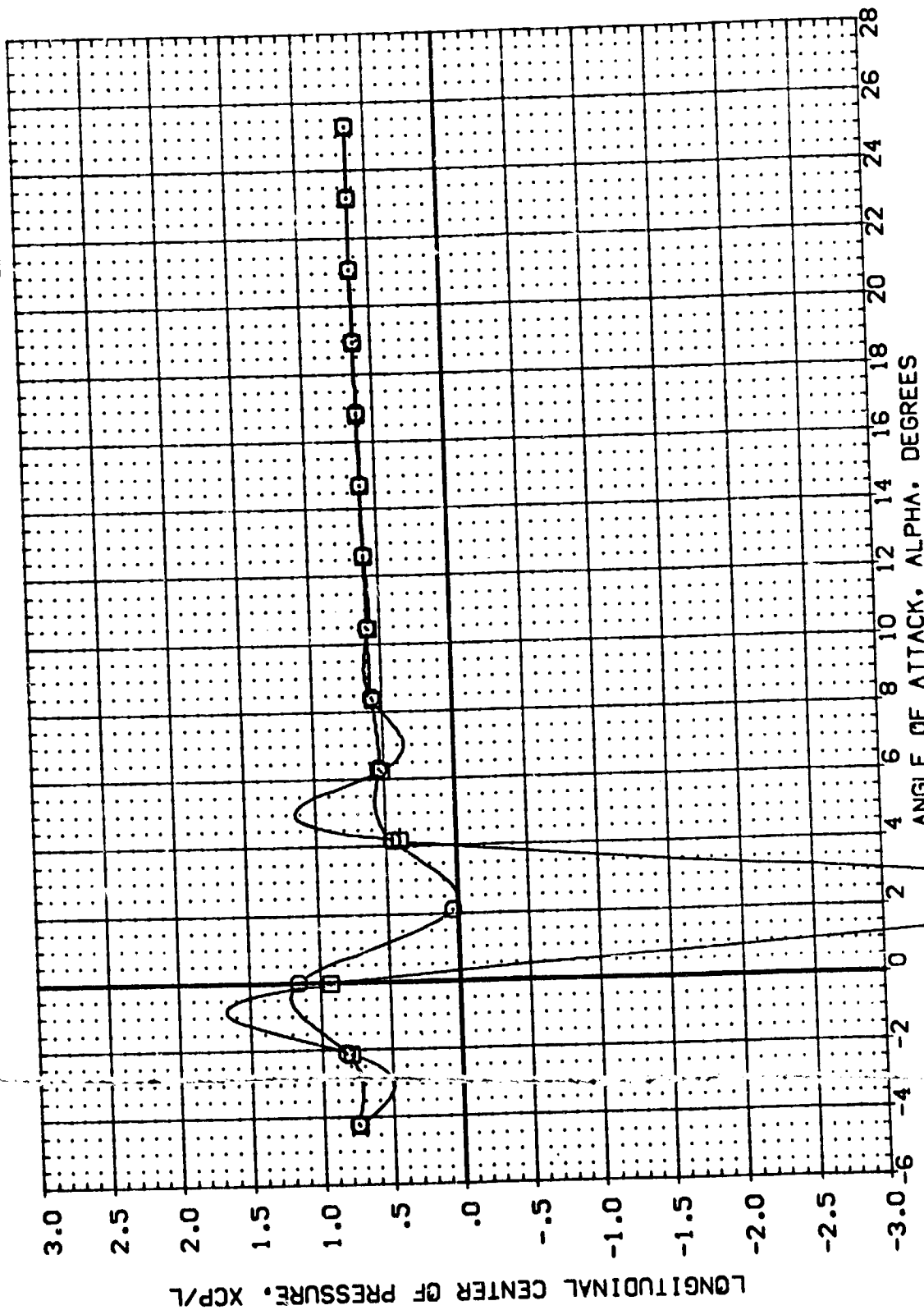


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

(A) MACH = .26

DATA SET SYMBOL: (IDP077)  
 CONFIGURATION: 0A21  
 DESCRIPTION: B17C7 FS V107E23V/TRXS  
 B17C7 M4FS V107E23V/TRXS

ELEVON: .000  
 AILRON: .000  
 BOFLAP: -18.000  
 SPOBRK: 55.000  
 SREF: 4.4119  
 LREF: 19.2299  
 BREF: 37.9359  
 XPRP: 43.5974  
 YPRP: .0000  
 ZPRP: 16.2000  
 SCALE: .0405

REFERENCE INFORMATION:  
 50 FT INCHES  
 19.2299 INCHES  
 37.9359 INCHES  
 43.5974 INCHES  
 .0000 INCHES  
 16.2000 INCHES  
 .0405 INCHES

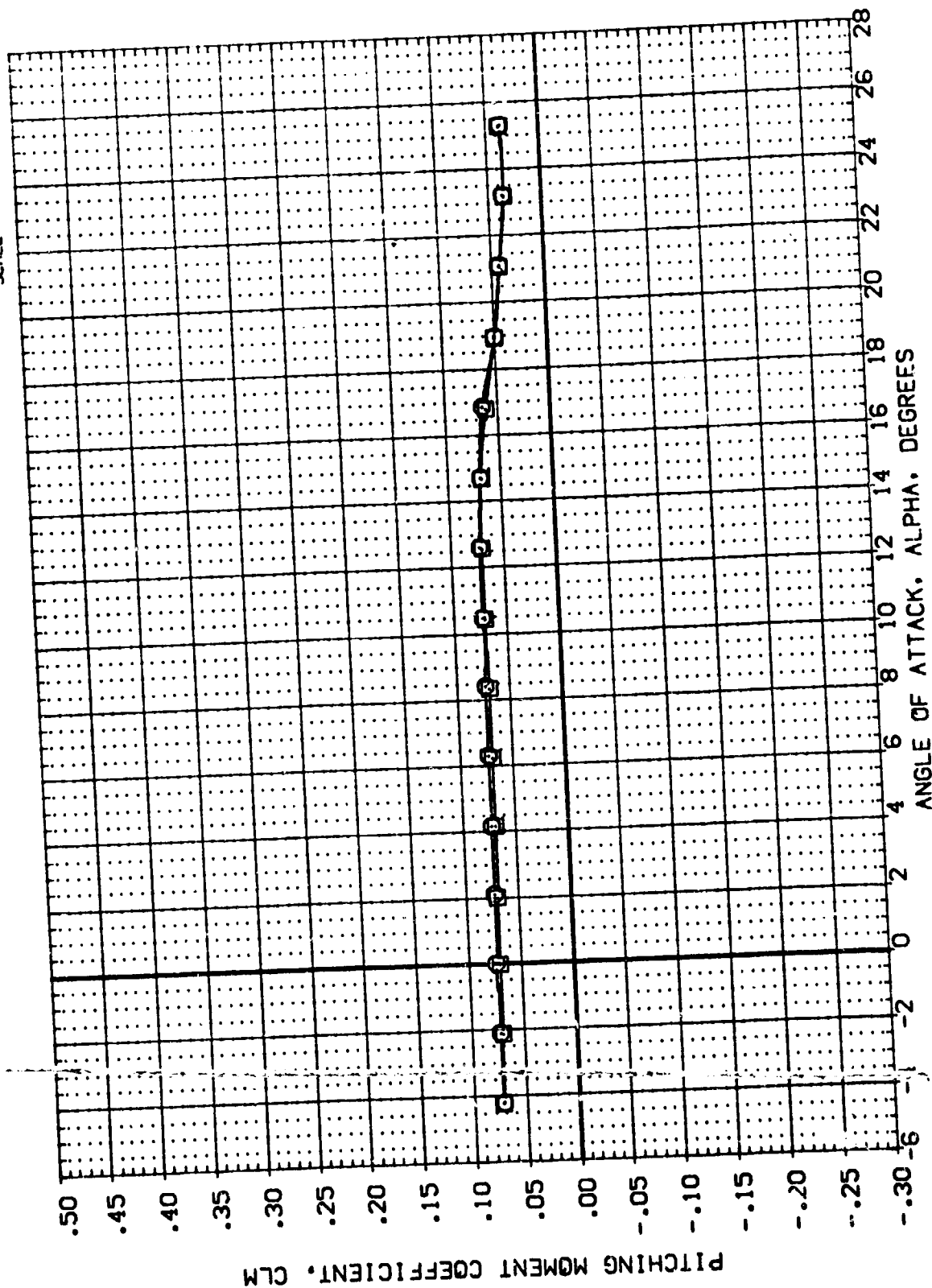


FIGURE 43 LONGITUDINAL EFFECT OF OMS POD

CAMACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION
[ROP103]	B17	.000				SREF 4.4119 SQ.FT.
[ROP058]	DA21	.000				LREF 19.2299 INCHES
[ROP053]	DA21	.000				BREF 37.5359 INCHES
[ROP053]	DA21	.000				XTRP 43.5974 INCHES
[ROP088]	DA21	.000				YTRP .0000 INCHES
[ROP010]	DA21	.000				ZTRP 16.2000 INCHES
						SCALE .0405

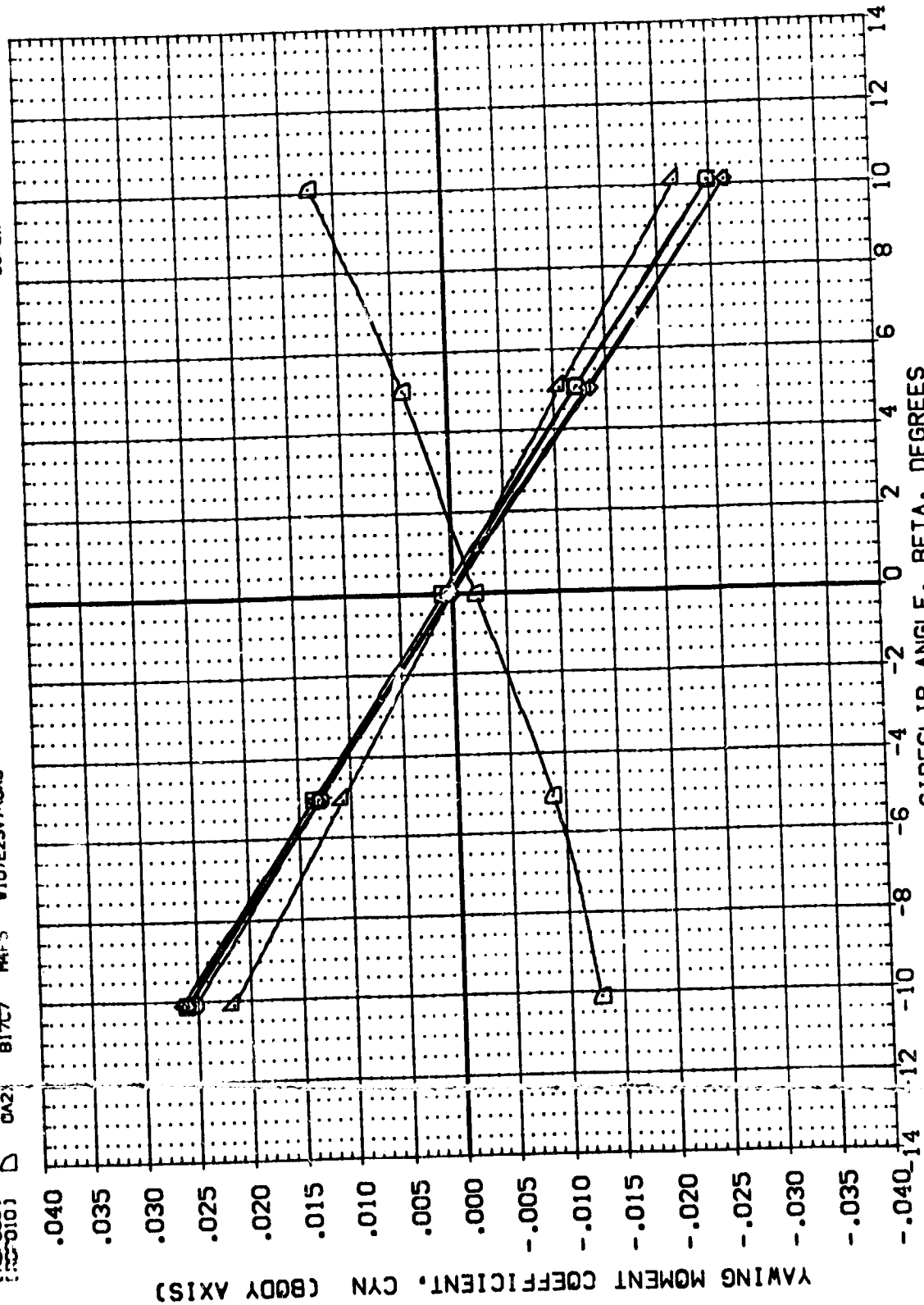


FIGURE 44 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 0 )

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION
(ROP103)	DA11 B17	.000				SREF 4.4119 SQ.FT.
(ROP098)	DA11 B17C7	.000				LREF 19.2289 INCHES
(ROP093)	DA11 B17C7	.000				BREF 37.9359 INCHES
(ROP083)	DA11 B17C7	.000	.000			VMRP 43.5974 INCHES
(ROP088)	DA11 B17C7	.000	.000	.000		VMRP .0000 INCHES
(ROP010)	DA12 B17C7	.000	.000	.000	.000	ZMRP 16.2000 INCHES
						SCALE .0405 INCHES

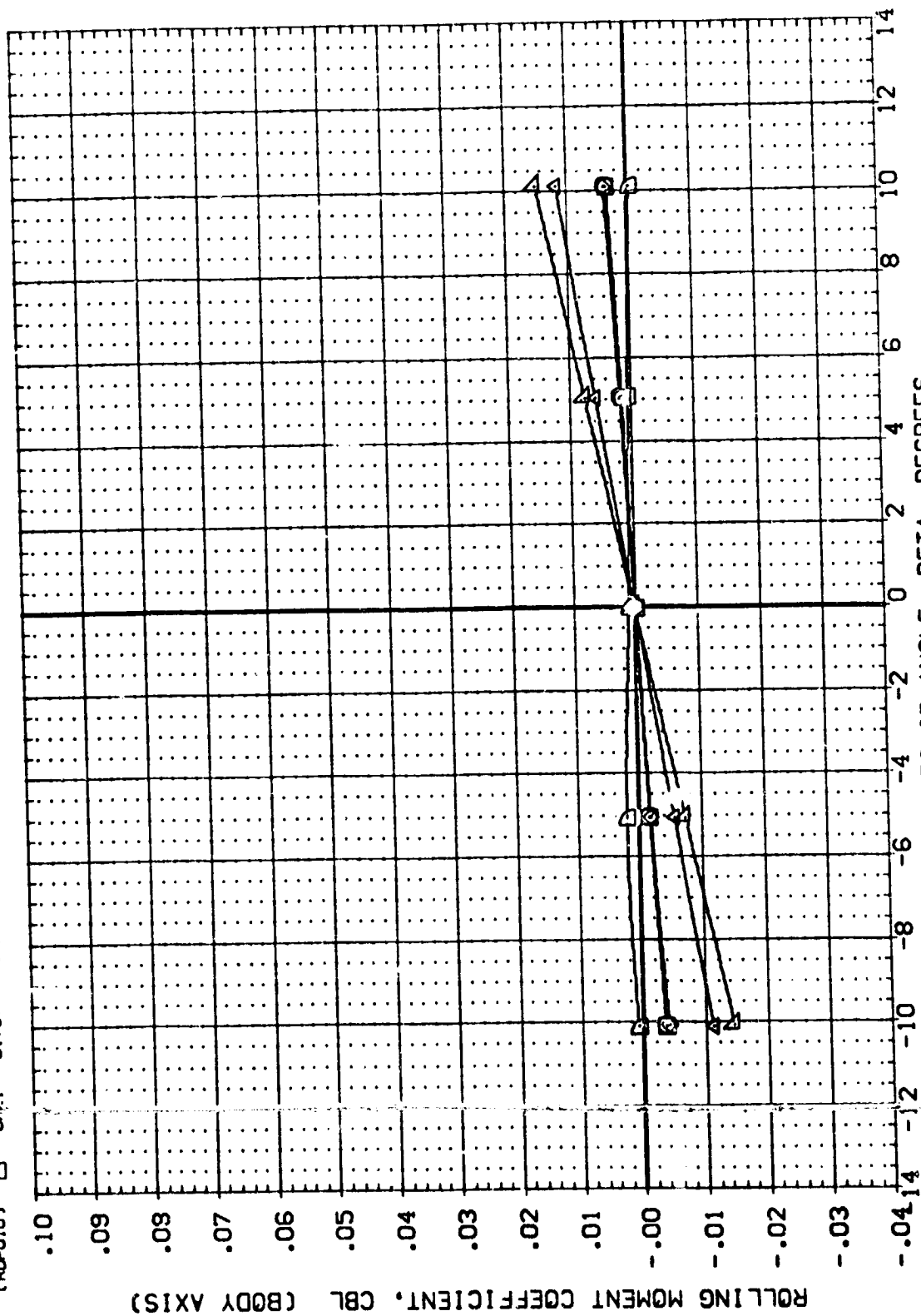


FIGURE 4: LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 0 )

(A)MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDER	SPDBRK	REFERENCE INFORMATION
(RDP103)	□	B17	.000	.000	.000	.000	SREF 4.4119 SQ.FT.
(RDP098)	○	DA2	.000	.000	.000	.000	LREF 19.2298 INCHES
(RDP093)	△	DA2	.000	.000	.000	.000	BREF 37.9259 INCHES
(RDP083)	×	DA2	.000	.000	.000	.000	XMRP 43.5574 INCHES
(RDP088)	◇	DA2	.000	.000	.000	.000	YMRP .0000 INCHES
(RDP010)	△	DA2	.000	.000	.000	.000	ZMRP 16.2000 INCHES
							SCALE .0405

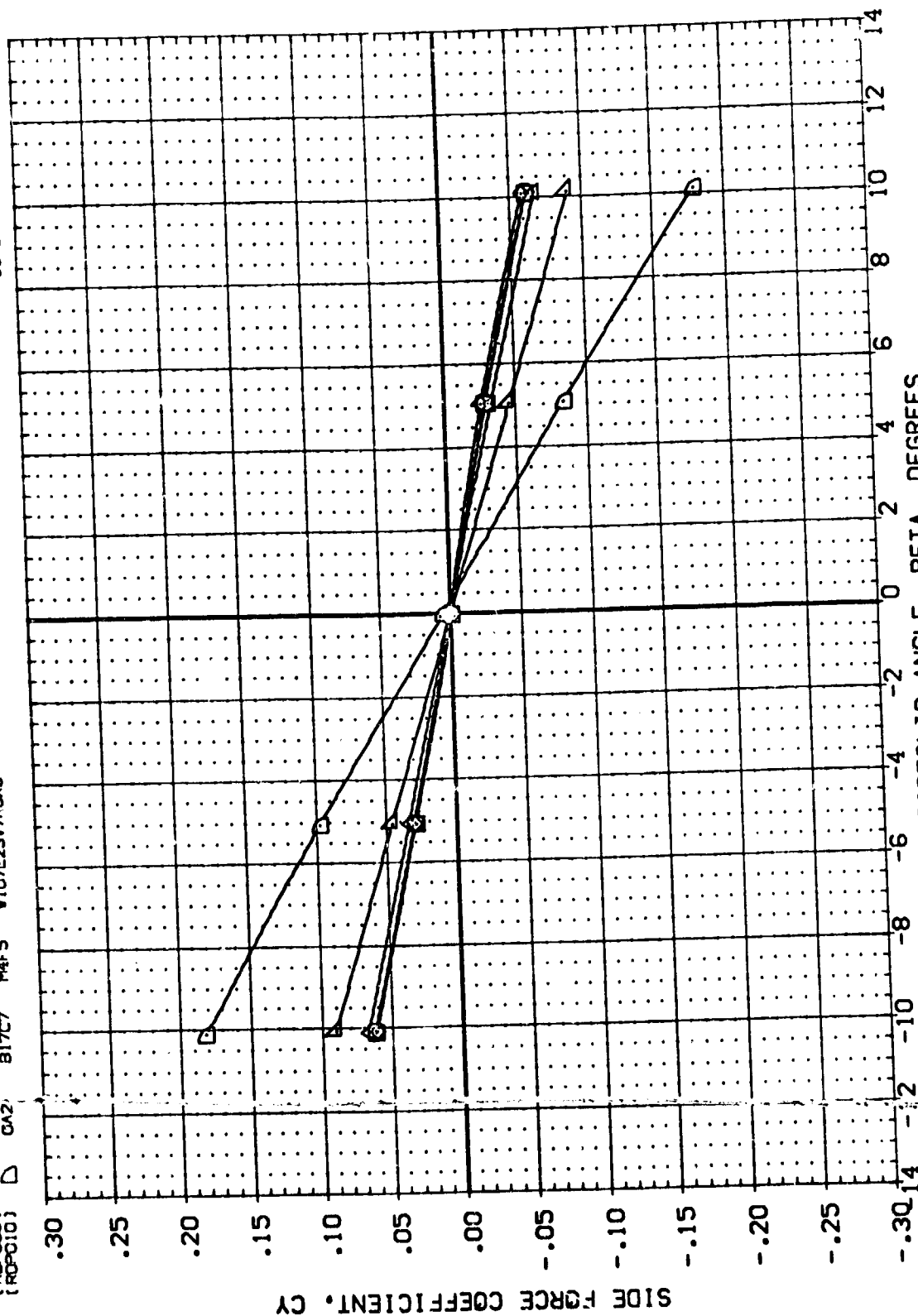


FIGURE 4.1 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS (  $\alpha = 0$  )

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDER	SPDBRK	REFERENCE INFORMATION
(ROP104)	DA1	0.000				SREF 4.4119 SO.FT.
(ROP099)	B17	0.000				LREF 19.2399 INCHES
(ROP094)	B17C7	0.000				BREF 37.9359 INCHES
(ROP094)	DA1	0.000				XMRP 43.5971 INCHES
(ROP094)	DA1	0.000				YMRP .0000 INCHES
(ROP099)	B17C7	0.000				ZMRP 16.2000 INCHES
(ROP099)	B17C7	0.000				SCALE .0405
(ROP011)	DA1	0.000				

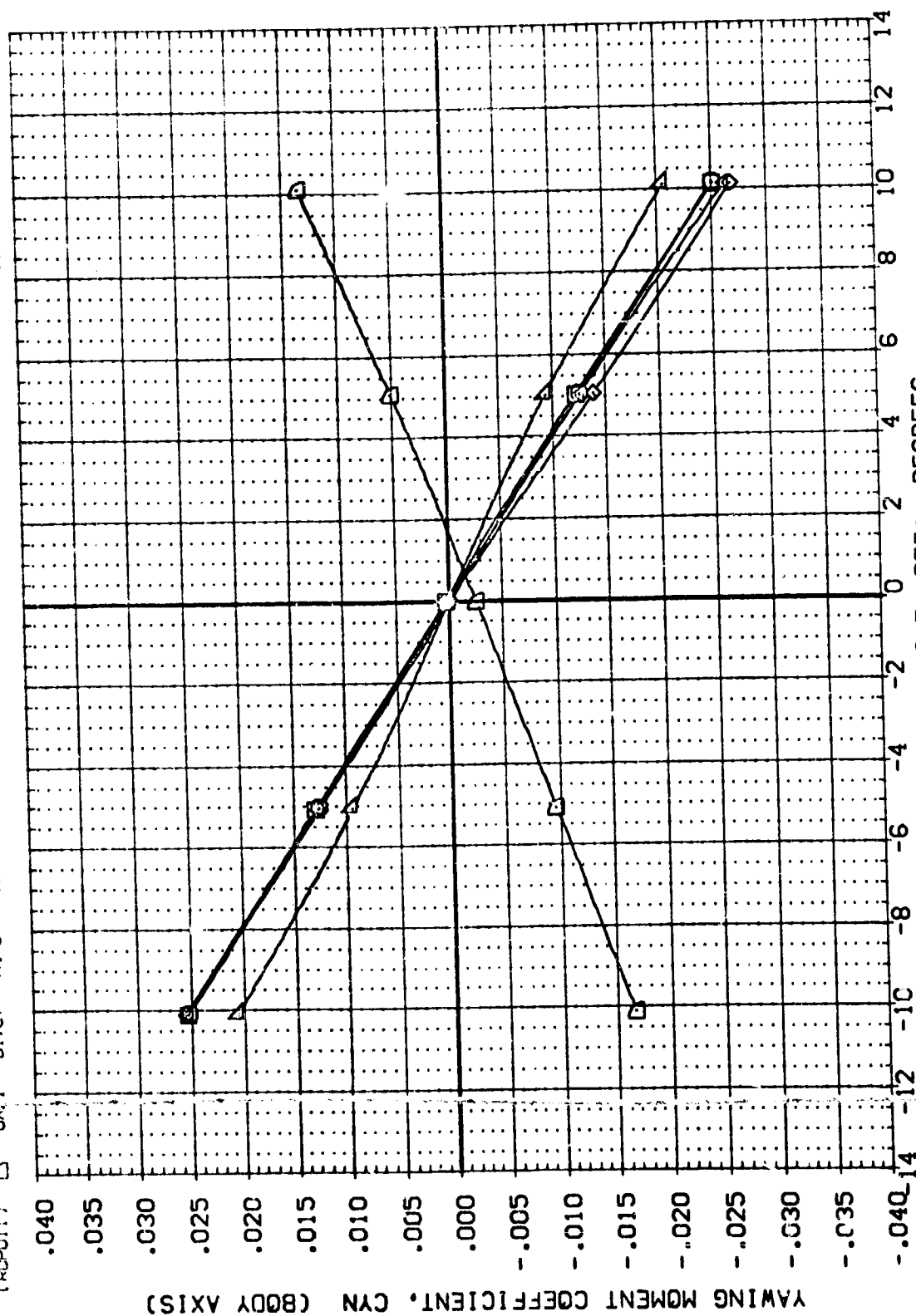


FIGURE 45 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 10 )

(A) MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPOILER	REFERENCE INFORMATION
[RDP104]	0A21 B17	10.000				SREF 4.4119 SQ.FT.
[RDP099]	0A21 B17C7	10.000				LREF 19.2299 INCHES
[RDP094]	0A21 B17C7	10.000				BREF 37.9359 INCHES
[RDP084]	0A21 B17C7	10.000	.000			XMRP 43.5974 INCHES
[RDP089]	0A21 B17C7	10.000	.000	.000		YMRP .0000 INCHES
[RDP011]	0A21 B17C7	10.000	.000	.000	.000	ZMRP 16.2000 INCHES
						SCALE .0405

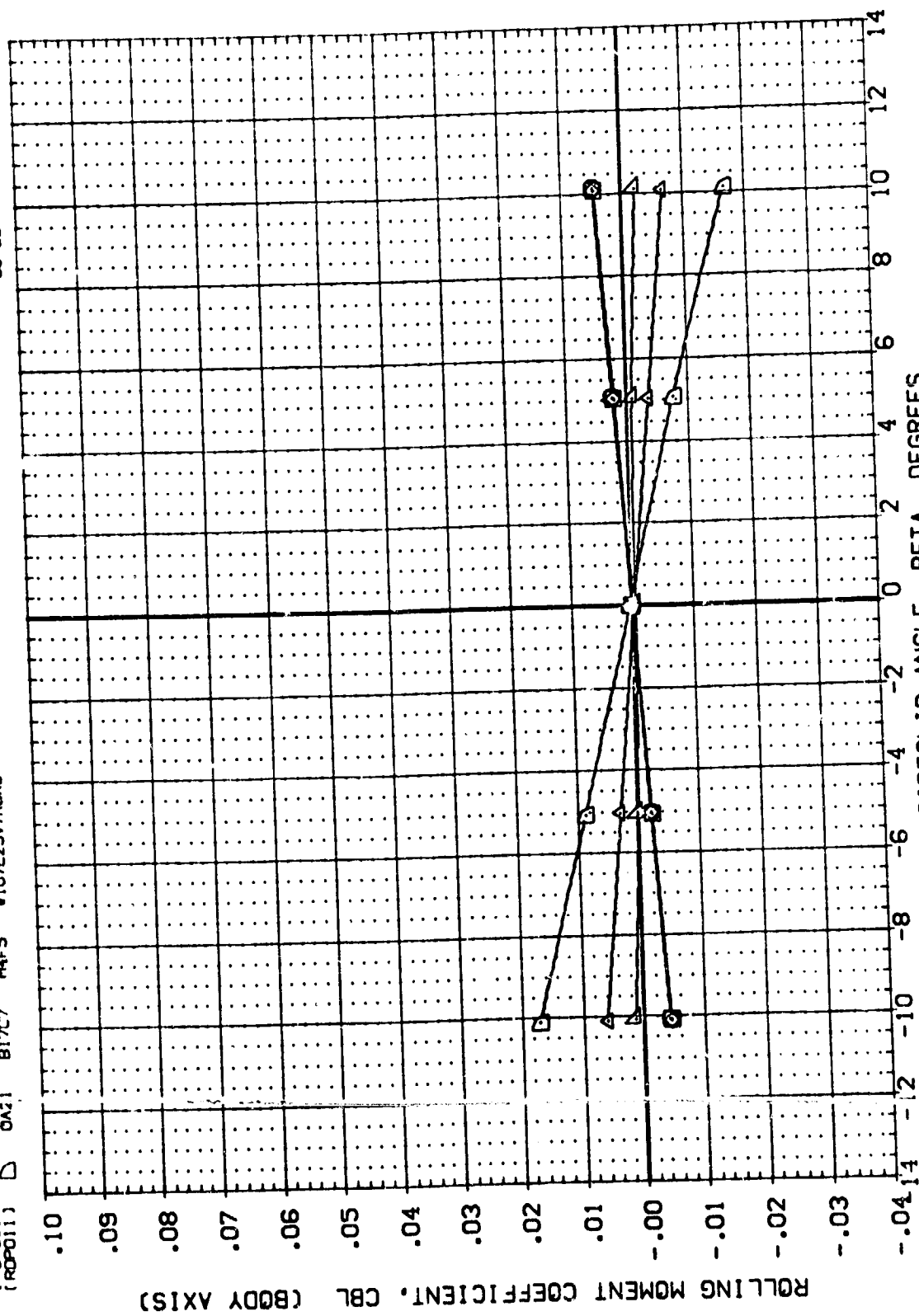


FIGURE 45 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 10 )  
 (A)MACH = .26 PAGE 423



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPORRK	REFERENCE INFORMATION
[R0P104]	021 B17	10.000				SREF 4.4119 SO.FT.
[R0P089]	021 B17C7	10.000				LREF 19.2299 INCHES
[R0P084]	021 B17C7	10.000				BREF 37.9359 INCHES
[R0P084]	021 B17C7	10.000	.000			XREF 43.5974 INCHES
[R0P089]	021 B17C7	10.000	.000	.000		YREF .0000 INCHES
[R0P011]	021 B17C7	10.000	.000	.000		ZREF 16.2000 INCHES
						SCALE .0405

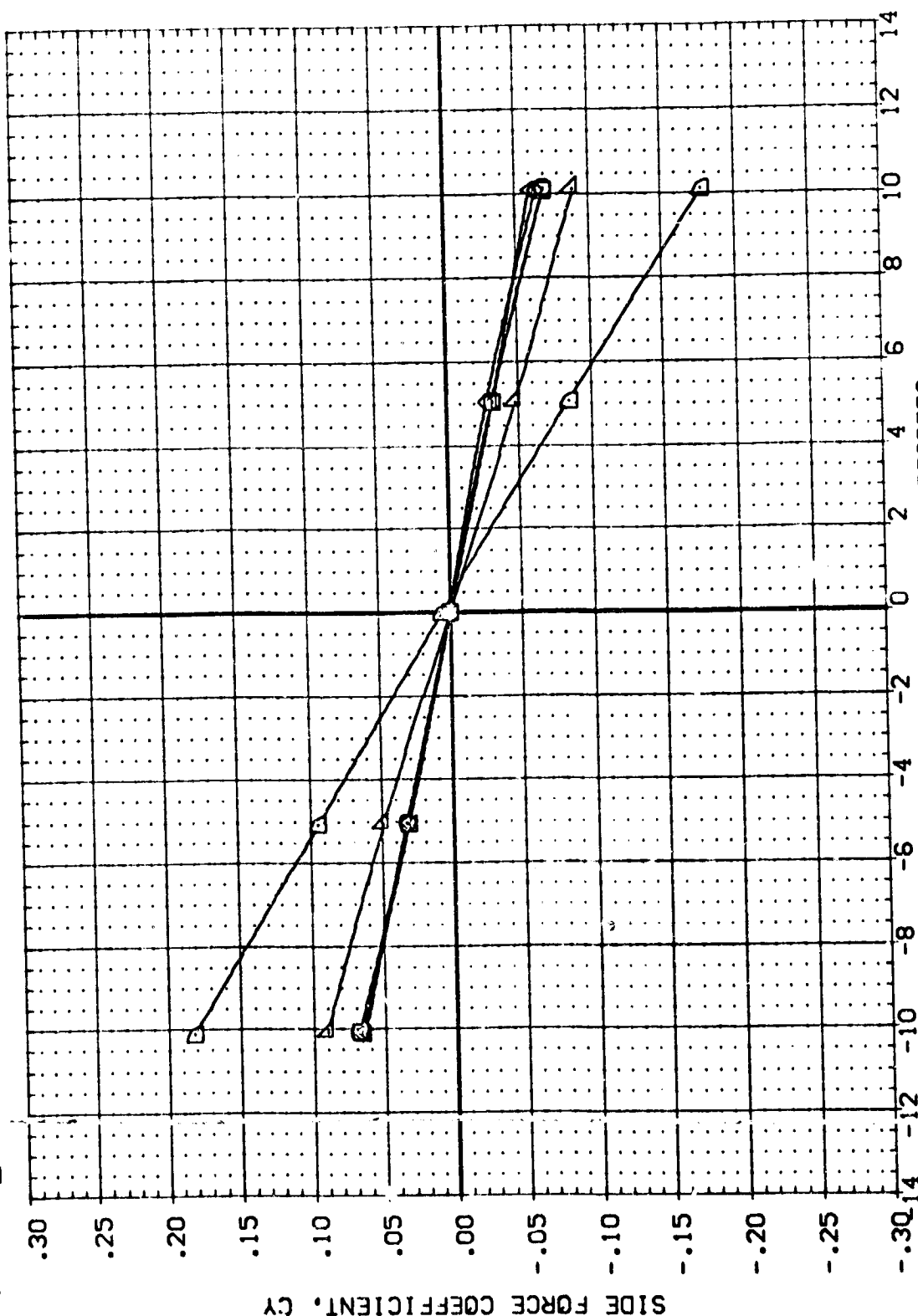


FIGURE 45 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 10 )

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILRON	RUDER	SPDRBK	REFERENCE INFORMATION
(RDP105)	(A21) B17	15.000				SREF 4.4119 50.FT. INCHES
(RDP100)	(A21) B17C7	15.000				LREF 19.2259 INCHES
(RDP095)	(A21) B17C7	15.000				BREF 37.9359 INCHES
(RDP085)	(A21) B17C7	15.000	.000			XMRP 43.5574 INCHES
(RDP080)	(A21) B17C7	15.000	.000	.000		YMRP .0000 INCHES
(RDP012)	(A21) B17C7	15.000	.000	.000	.000	ZMRP 16.2000 INCHES
						SCALE .0405 INCHES

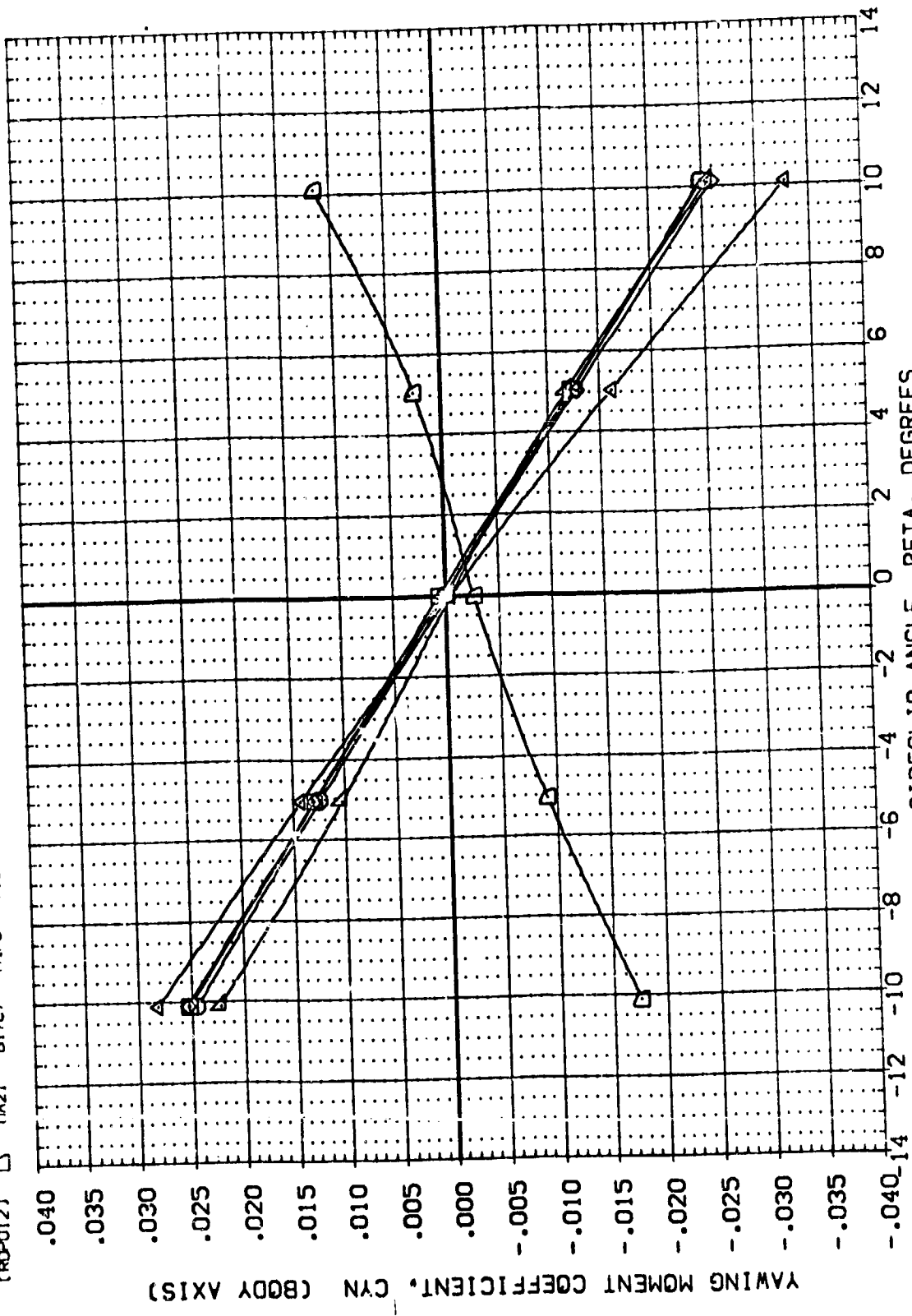


FIGURE 46 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 15 )

CALMACH = .26

PAGE 425

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDER	SPOROK	REFERENCE INFORMATION
(ROP105)	DA21 B17	15.000				SREF 4.4119 SO.FT.
(ROP100)	DA21 B17C7	15.000				LREF 19.2299 INCHES
(ROP095)	DA21 B17C7	15.000				SREF 37.9359 INCHES
(ROP090)	DA21 B17C7	15.000	.000			XREF 43.1974 INCHES
(ROP085)	DA21 B17C7	15.000	.000	.000		YREF .0000 INCHES
(ROP080)	DA21 B17C7	15.000	.000	.000	.000	ZREF 16.2000 INCHES
(ROP012)	DA21 B17C7	15.000	.000	.000	.000	SCALE .1ACS

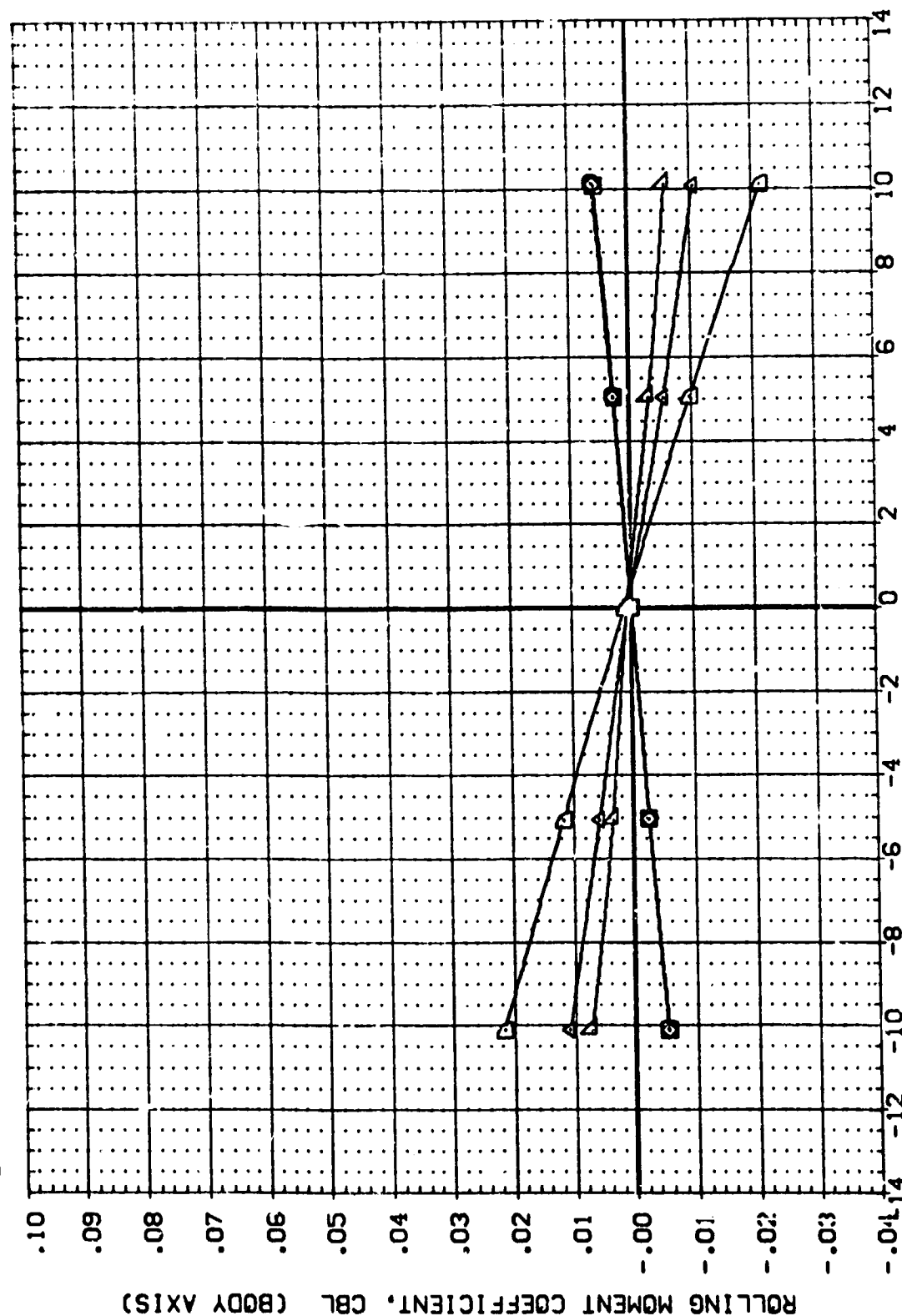


FIGURE 46 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 15 )

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION
[RDP105]	0A21 B17	15.000				SREF 4.4119 SQ.FT.
[RDP100]	0A21 B17C7	15.000				LREF 13.2299 INCHES
[RDP055]	0A21 B17C7	15.000				BREF 37.9359 INCHES
[RDP065]	0A21 B17C7	15.000	.000			XMRP 43.5874 INCHES
[RDP080]	0A21 B17C7	15.000	.000	.000		YMRP .0000 INCHES
[RDP090]	0A21 B17C7	15.000	.000	.000	.000	ZMRP 16.2000 INCHES
[RDP012]	0A21 B17C7	15.000	.000	.000	.000	SCALE .0405 INCHES
	F5 V107E23					
	F5 V107E23					
	H4FS V107E23/7R6X9					

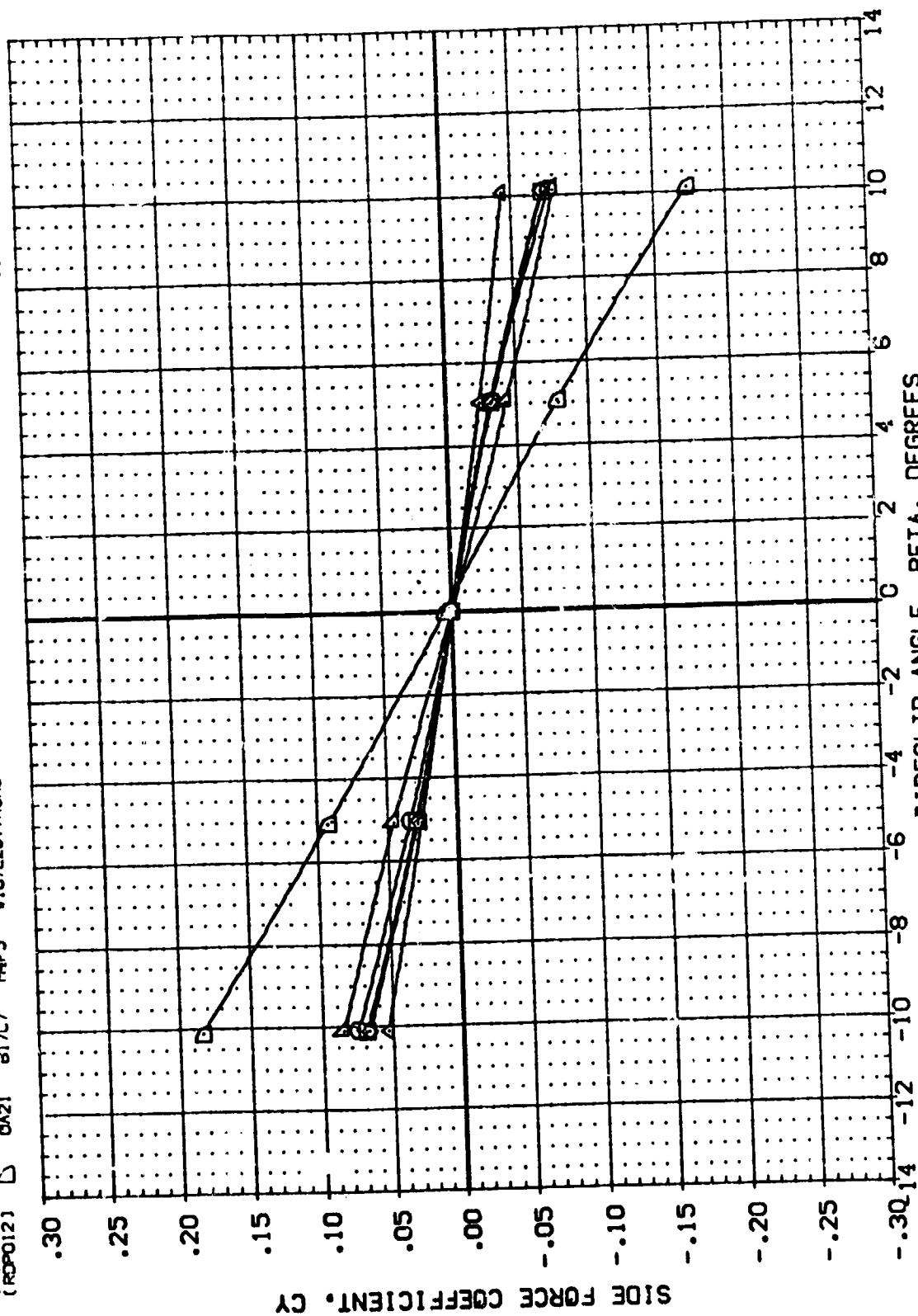


FIGURE 46 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS (  $\alpha = 15^\circ$  )

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILRON	RUDDER	SPOBRK	REFERENCE INFORMATION
(RDP106)	DA21 B17	20.000				SREF 4.4119 50.000
(RDP101)	DA21 B17C7	20.000				LREF 19.2299 INCHES
(RDP103)	DA21 B17C7	20.000				BREF 37.5359 INCHES
(RDP066)	DA21 B17C7	20.000	.000			XTRP 43.5974 INCHES
(RDP051)	DA21 B17C7	20.000	.000	.000		YTRP 16.0000 INCHES
(RDP013)	DA21 B17C7	20.000	.000	.000	.000	ZTRP 16.0000 INCHES
						SCALE .0405

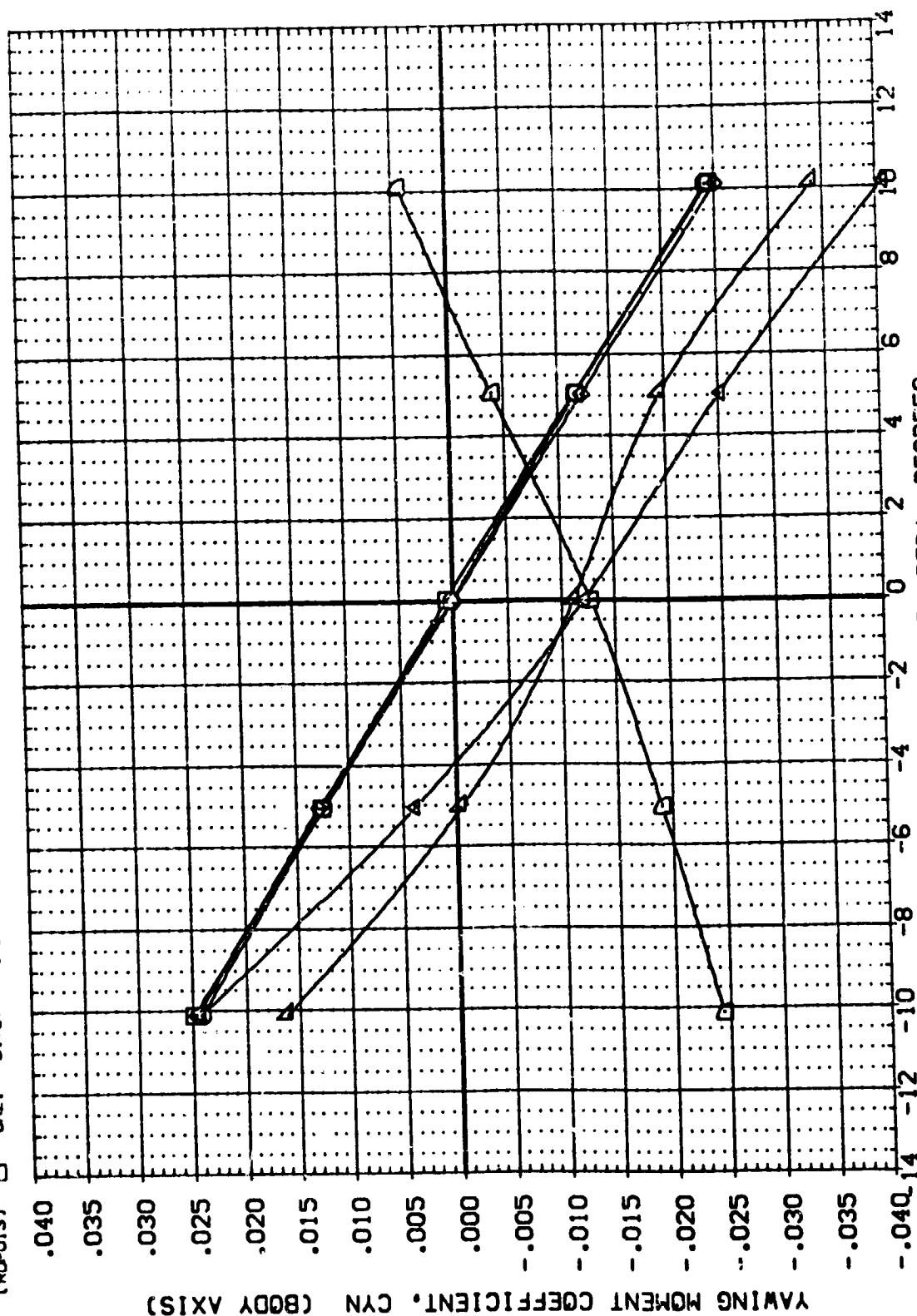


FIGURE 47 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 20 )

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDER	SPOILER	REFERENCE INFORMATION
[ROP106]	□	DA21 B17	20.000				SREF 4.4119 SO.FT.
[ROP101]	□	DA21 B17C7	20.000				LREF 19.2298 INCHES
[ROP056]	□	DA21 B17C7	20.000				BRF 37.9353 INCHES
[ROP056]	□	DA21 B17C7	20.000	.000			YMRP 43.5574 INCHES
[ROP051]	□	DA21 B17C7	20.000	.000	.000		YMRP .0000 INCHES
[ROP013]	□	DA21 B17C7	20.000	.000	.000	.000	ZMRP 16.2000 INCHES
							SCALE .0405

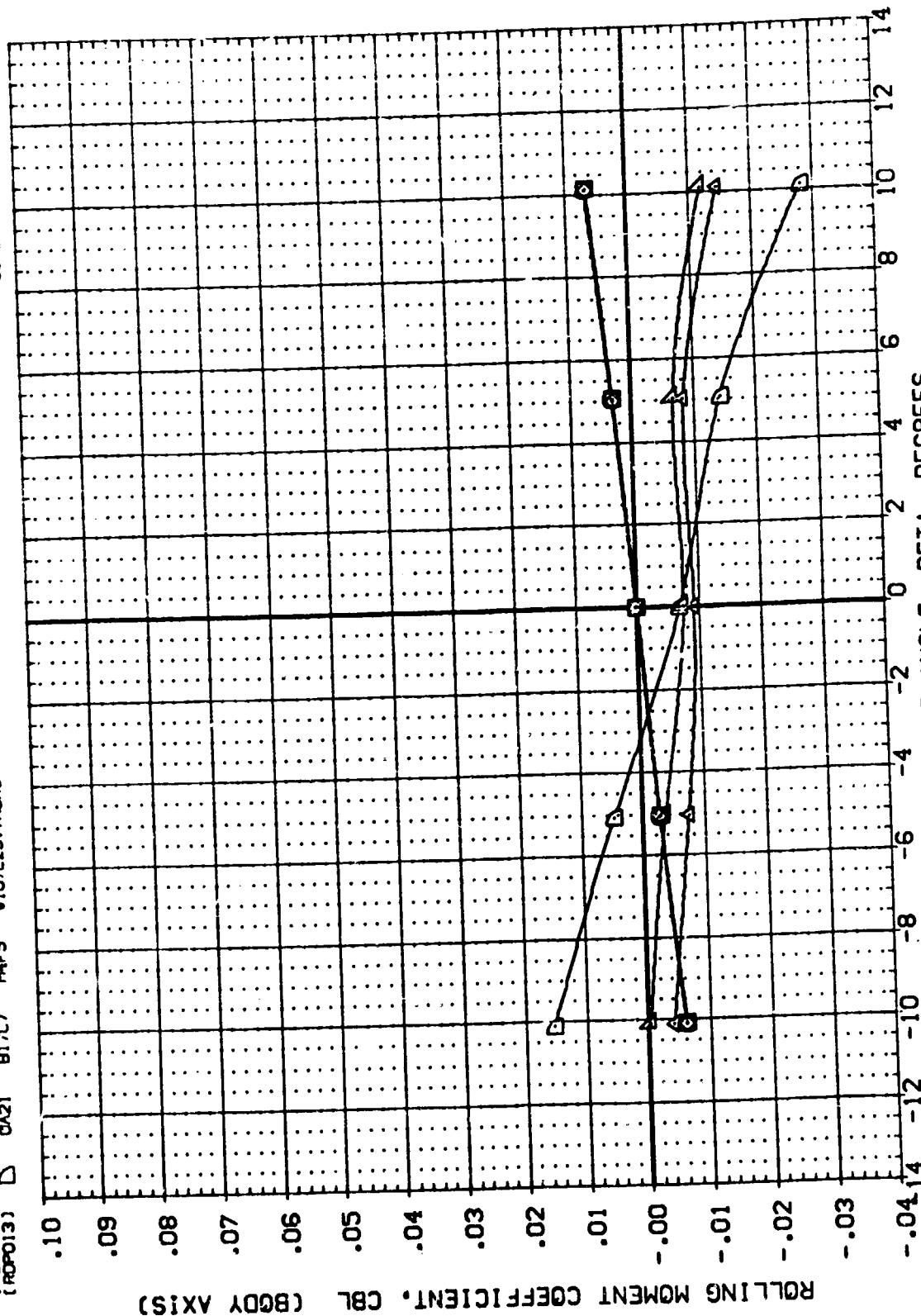
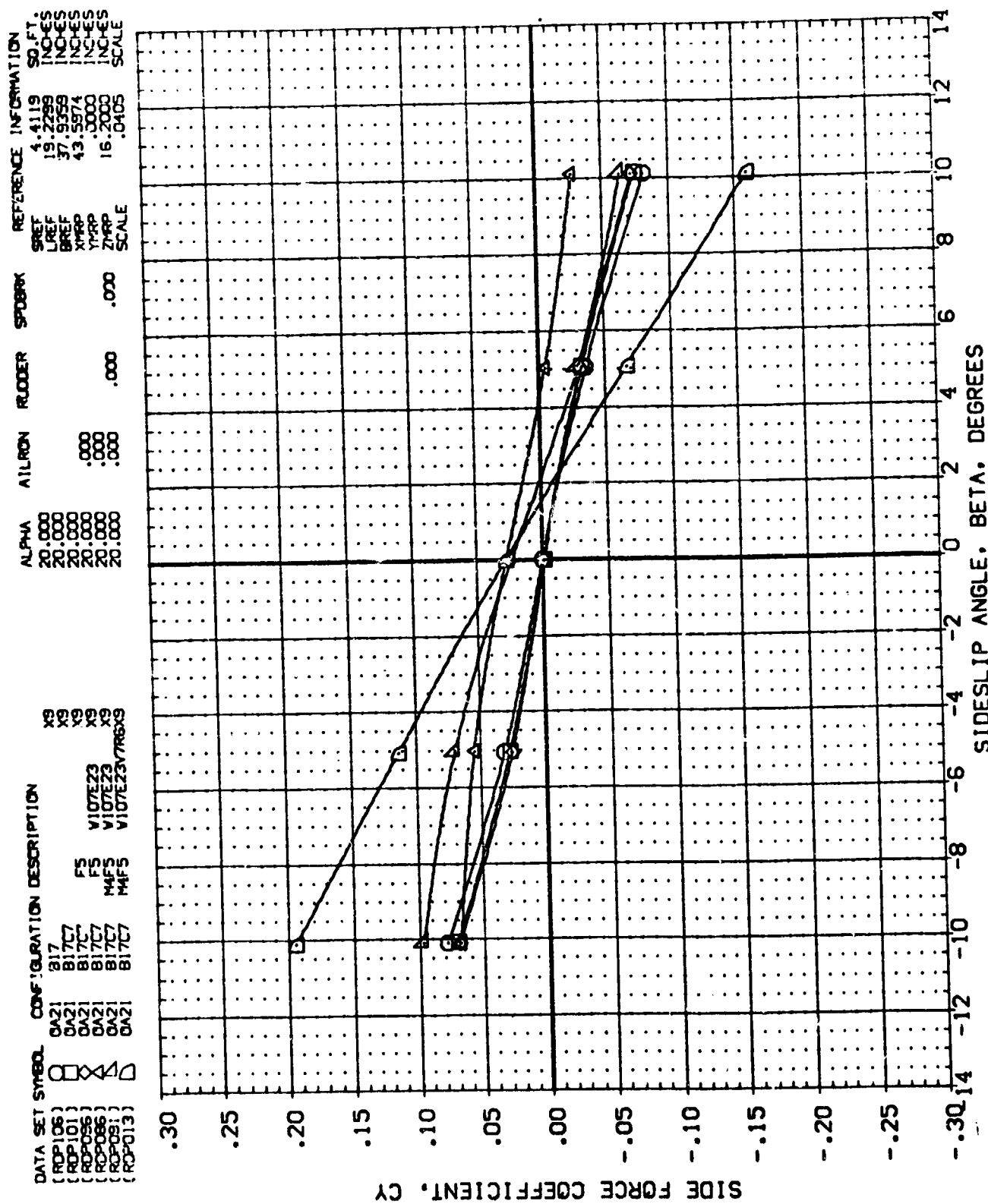


FIGURE 47 LATERAL/DIRECTIONAL CONFIGURATION COMPONENT EFFECTS ( ALPHA = 20 )

(A)MACH = .26



PAGE 430

$\{A\}MACH = .26$



CA2: 817

X9

(JDP103)

SYMBOL MACH  
○ .260

REFERENCE INFORMATION  
SREF 4.4119 SC.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5874 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405 SCALE

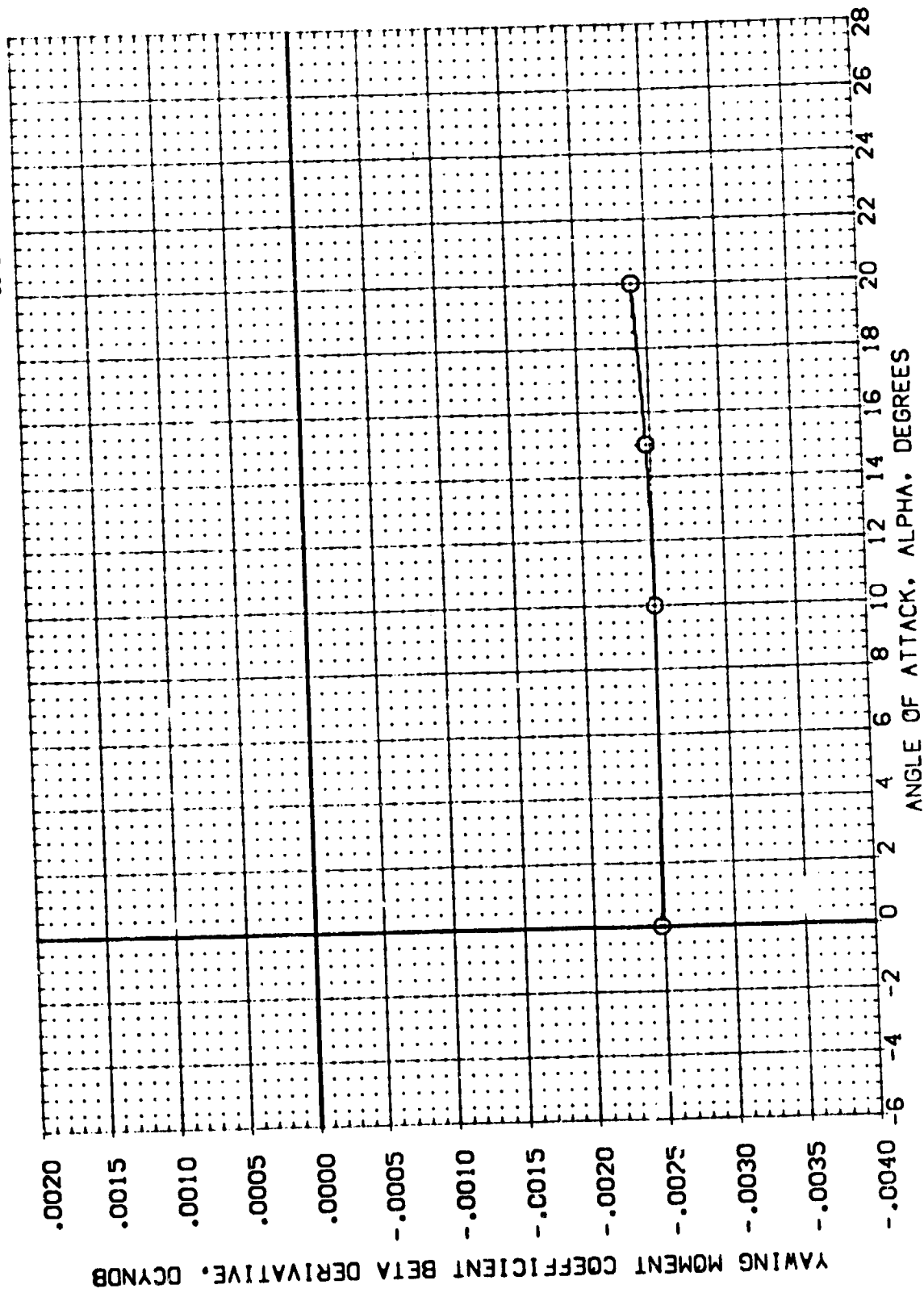


FIGURE 48 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY )



(JDP103)

X9

CA21 B17

SYMBOL MACH  
C .260

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2289 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

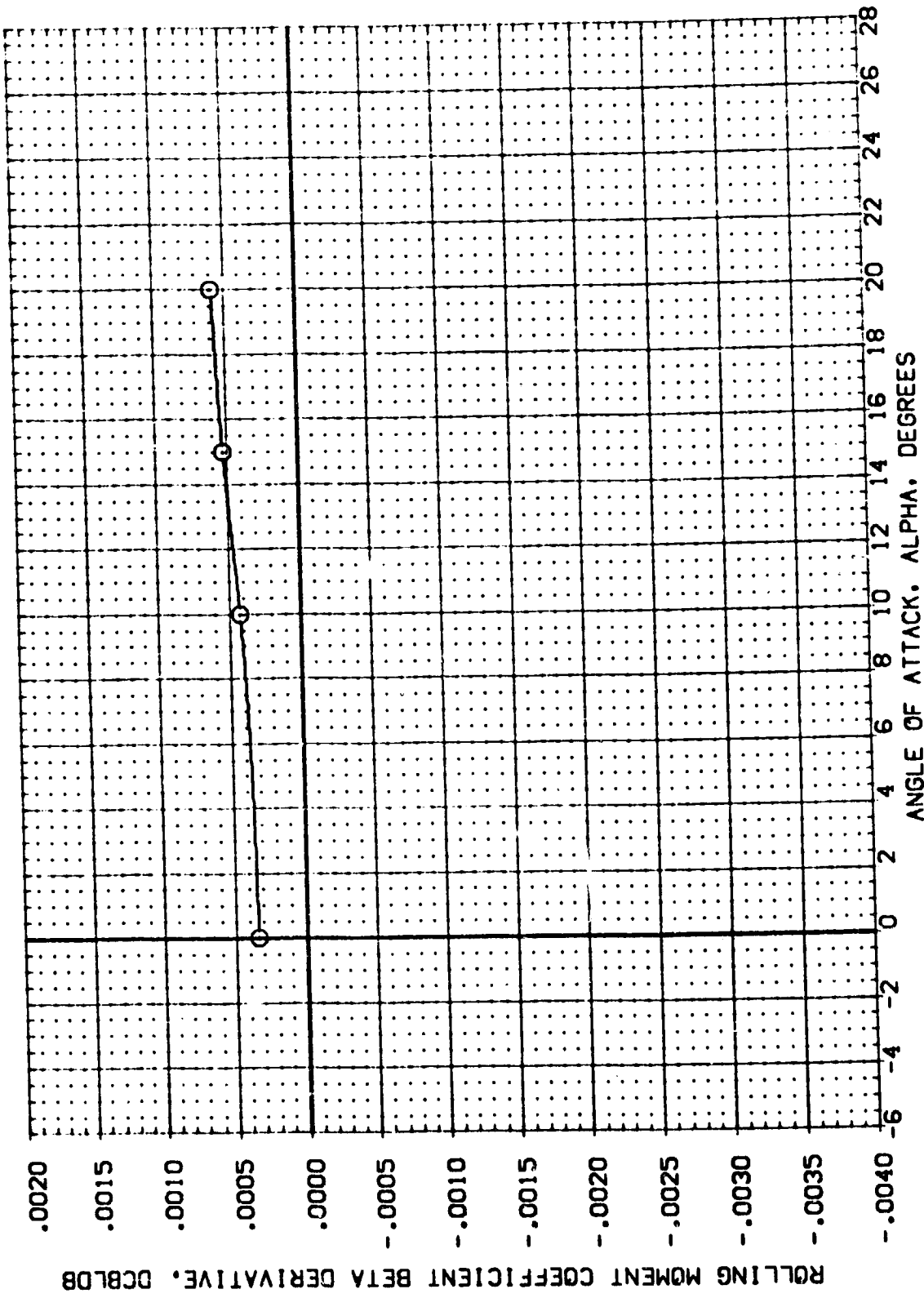


FIGURE 48 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY )

(JDP103)

X9

0A21 B:7

SYMBOL MACH  
O .260

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

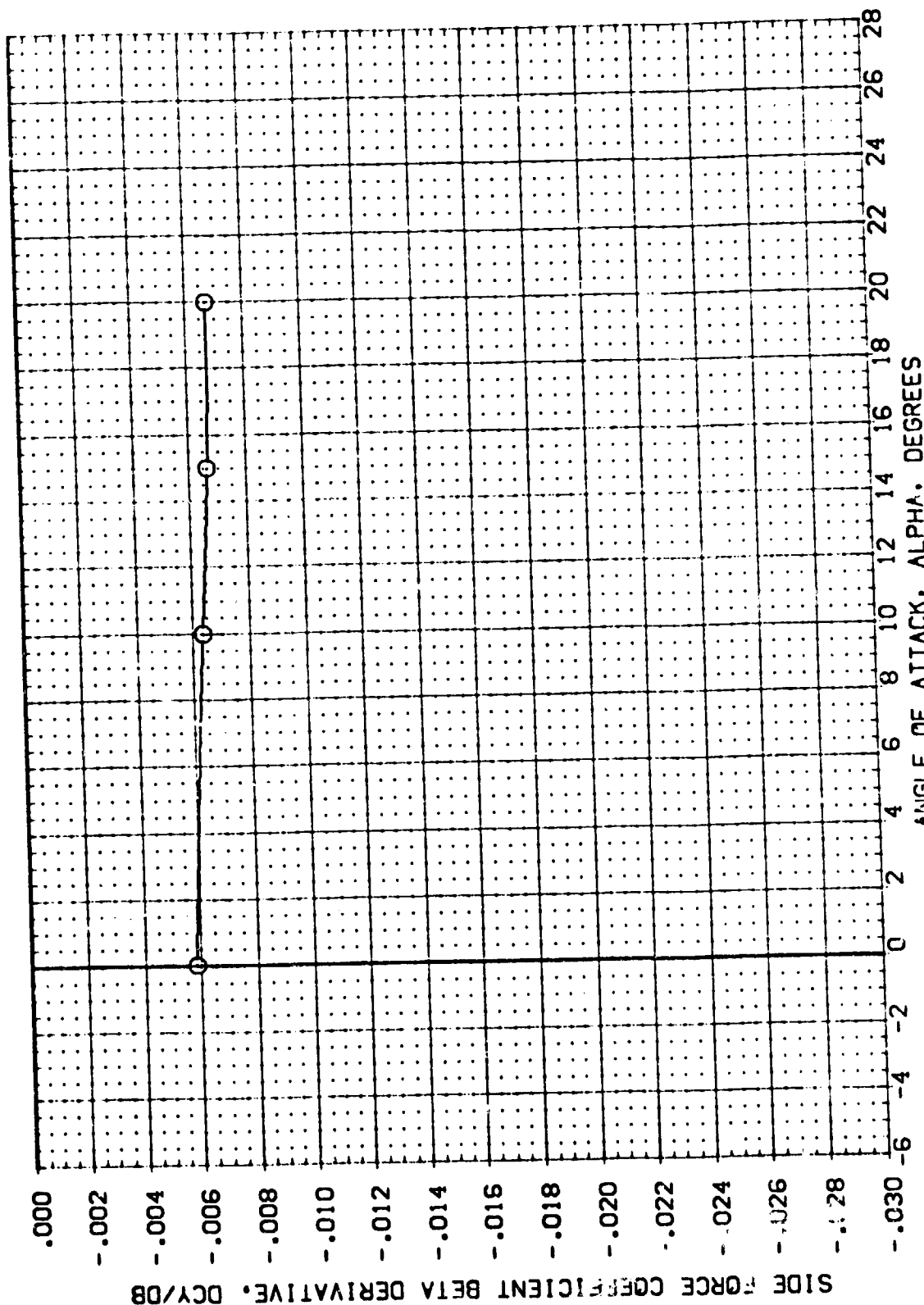


FIGURE 48 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY )

(JDP098)

X9

CA2: 8:7C7

SYMBOL MACH  
O .763

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405 INCHES

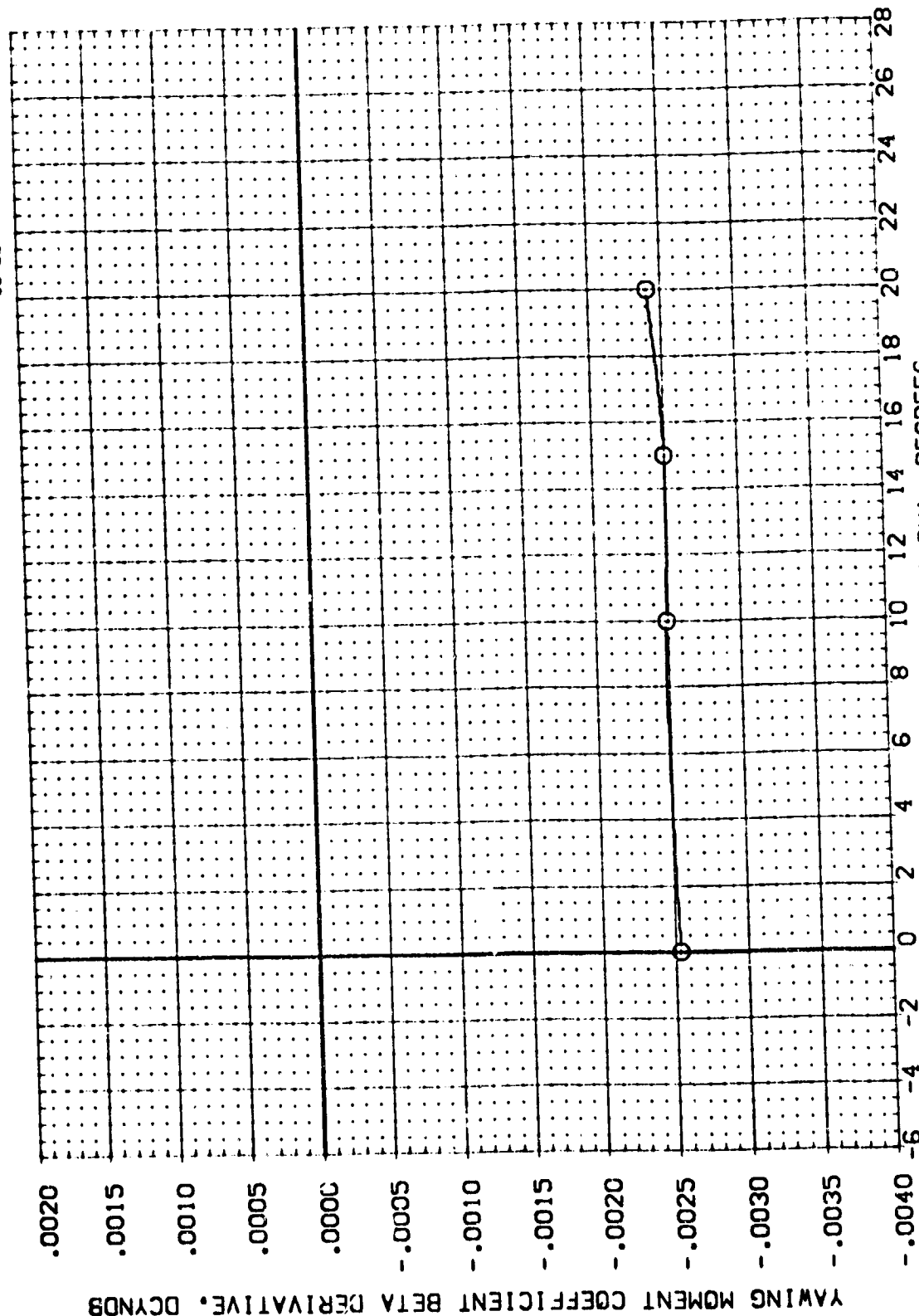


FIGURE 49 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY )



(JDP098)

X9

3A21 B17C7

SINGC MACH 760

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5874 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

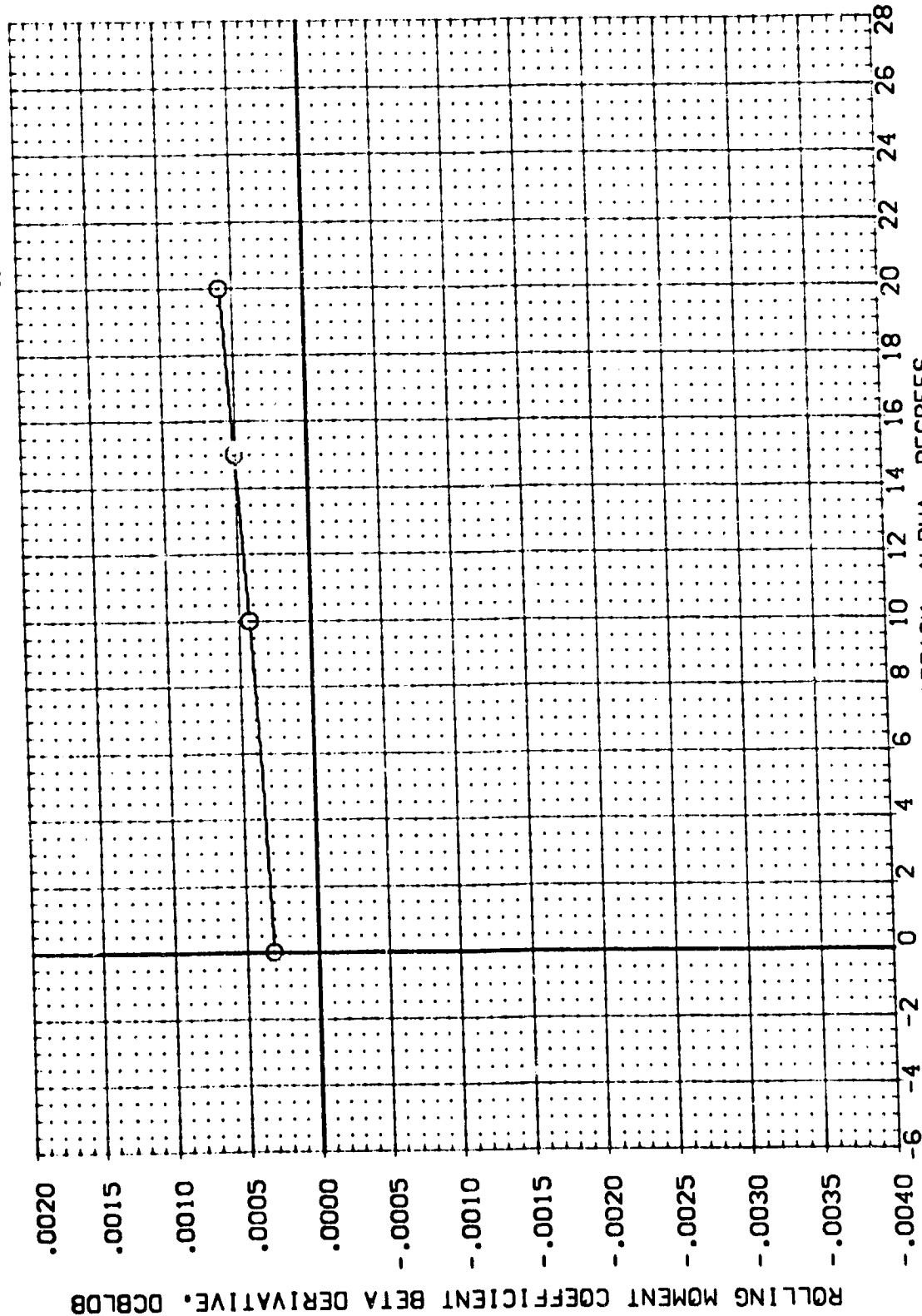


FIGURE 49 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY )

(JDP098)

X9

0A21 B17C7

SYMBOL MACH  
O .260

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

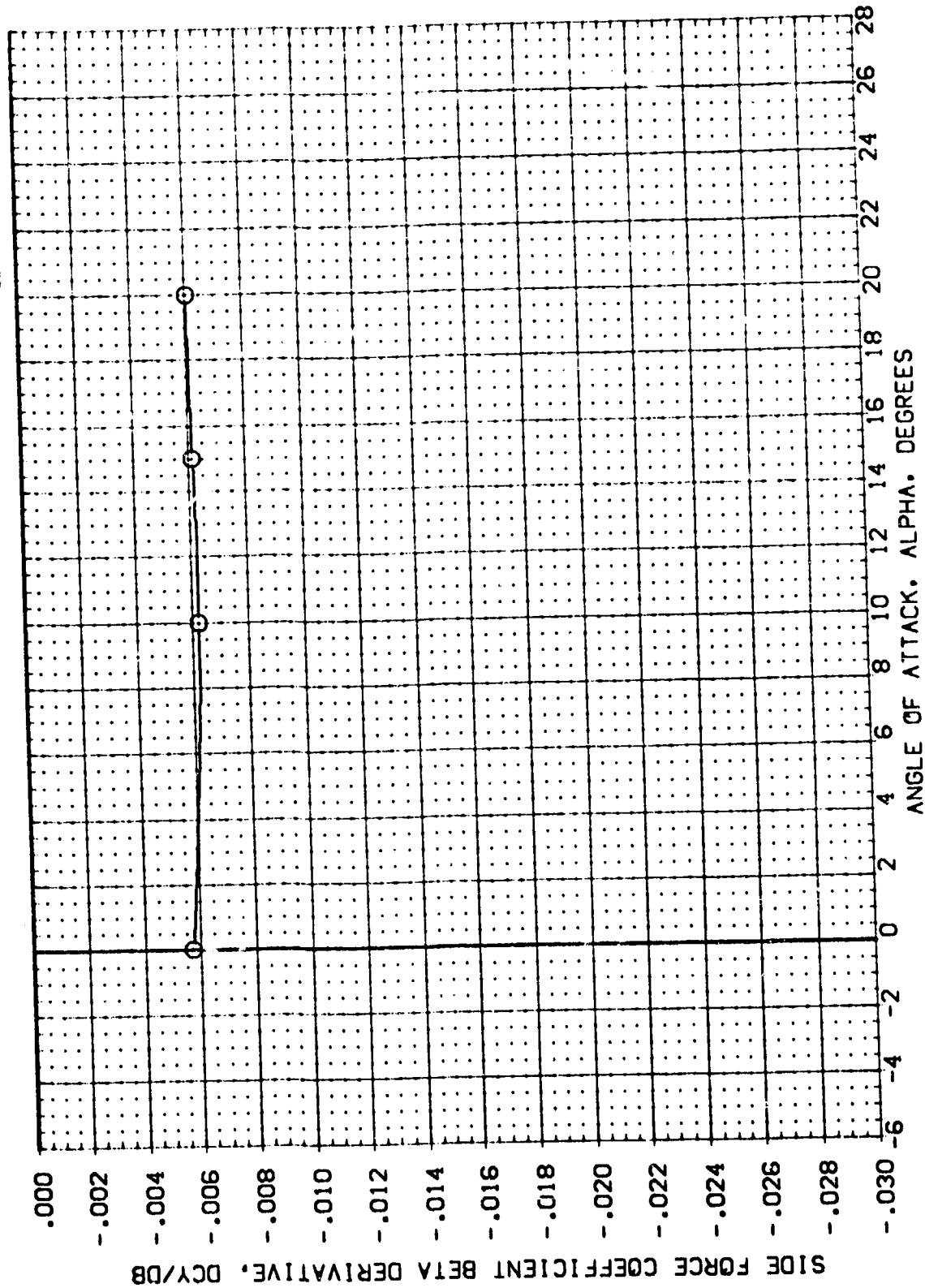


FIGURE 49 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY )



(JDP093)

X9

CA21 8:7C7 F5

SYMBOL	MACH	BOFLAP	PARAMETRIC VALUES	DATA SOURCE	ALPHA	ALPHA	SREF	REFERENCE INFORMATION
○	.26C		-18.00C	JDP093	.00C	10.00C	19.2299	SO.FT.
				JDP095	15.00C	20.00C	37.9359	INCHES
							43.5974	INCHES
							.00C	INCHES
							16.2000	INCHES
							.04C5	SCALE

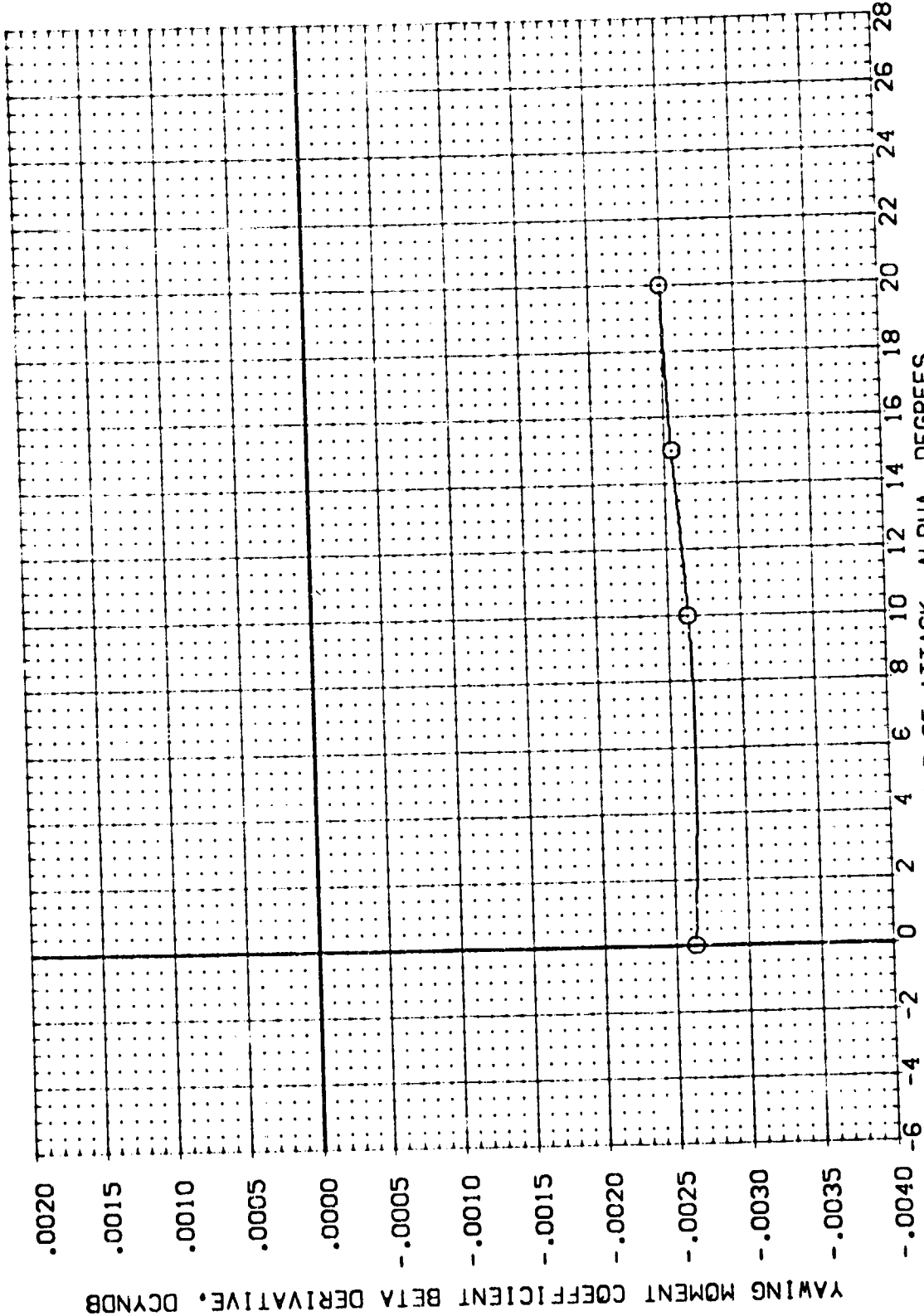


FIGURE 50 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BOFLAP )

(JDP093)

X9

F5

CA2: 3:7C7

SYMBOL MACH

0

.260

BOFLAP

-18.000

PARAMETRIC VALUES

DATA SOURCE

ALPHA

.000

15.000

DATASET

JDP093

JDP095

ALPHA

10.000

20.000

SREF

19.2298

37.9359

43.5974

YMRP

.0000

ZMRP

16.2000

SCALE

.0405

REFERENCE INFORMATION

SG.FT.

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

NCLES

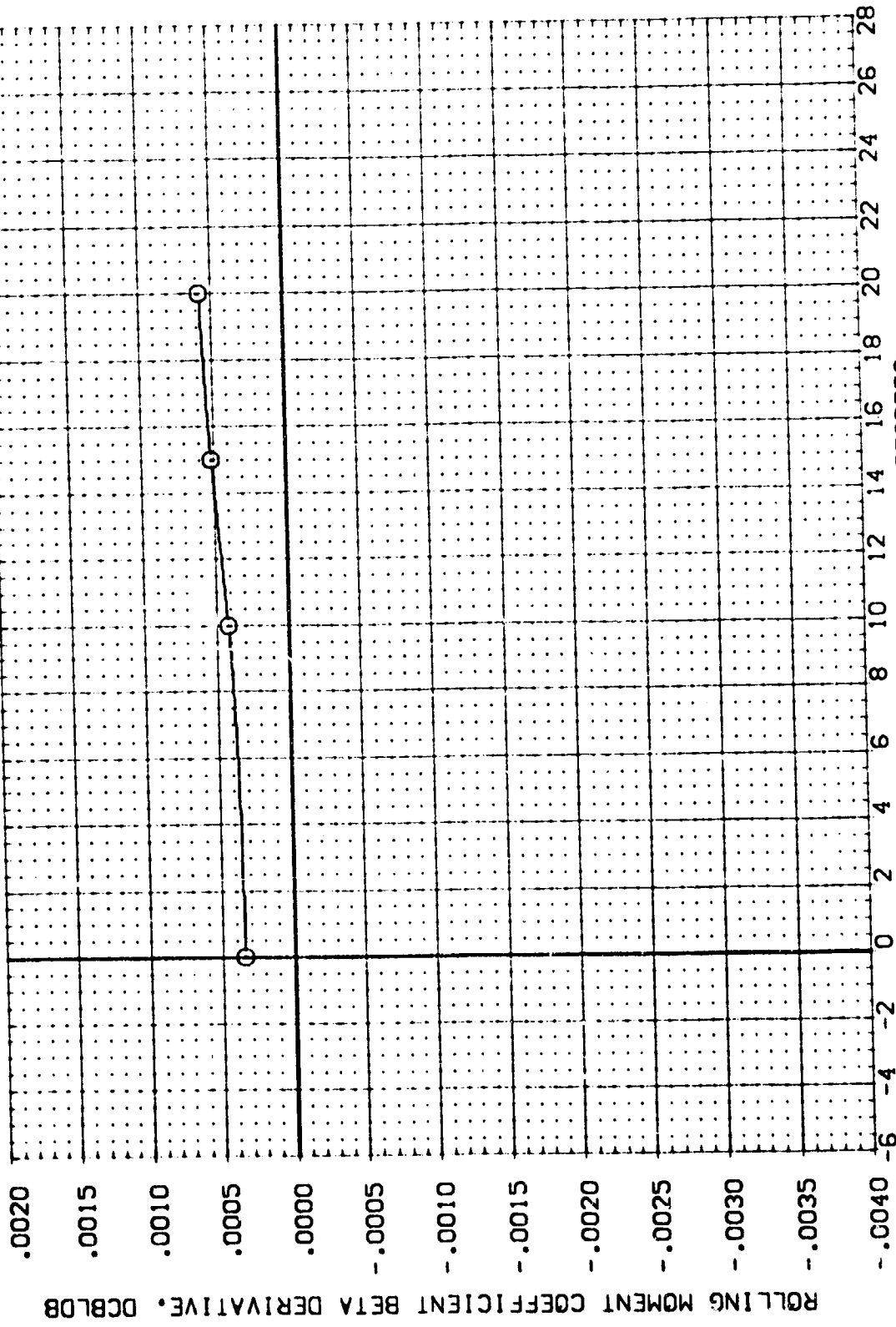


FIGURE 50 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BOFLAP )



CA2: 317C7 F5 X9 (JDP093)

SYMBOL	MACH	BOFLAP	PARAMETRIC VALUES	DATASET	DATA SOURCE	ALPHA	SREF	REFERENCE INFORMATION
○	.260		-18.000	JDP093	ALPHA	10.000	LREF	SC.F.T.
				JDP095	BOFLAP	20.000	BREF	NC.F.T.
							XREF	NC.F.T.
							YREF	NC.F.T.
							ZREF	NC.F.T.
							SCALE	SCALE

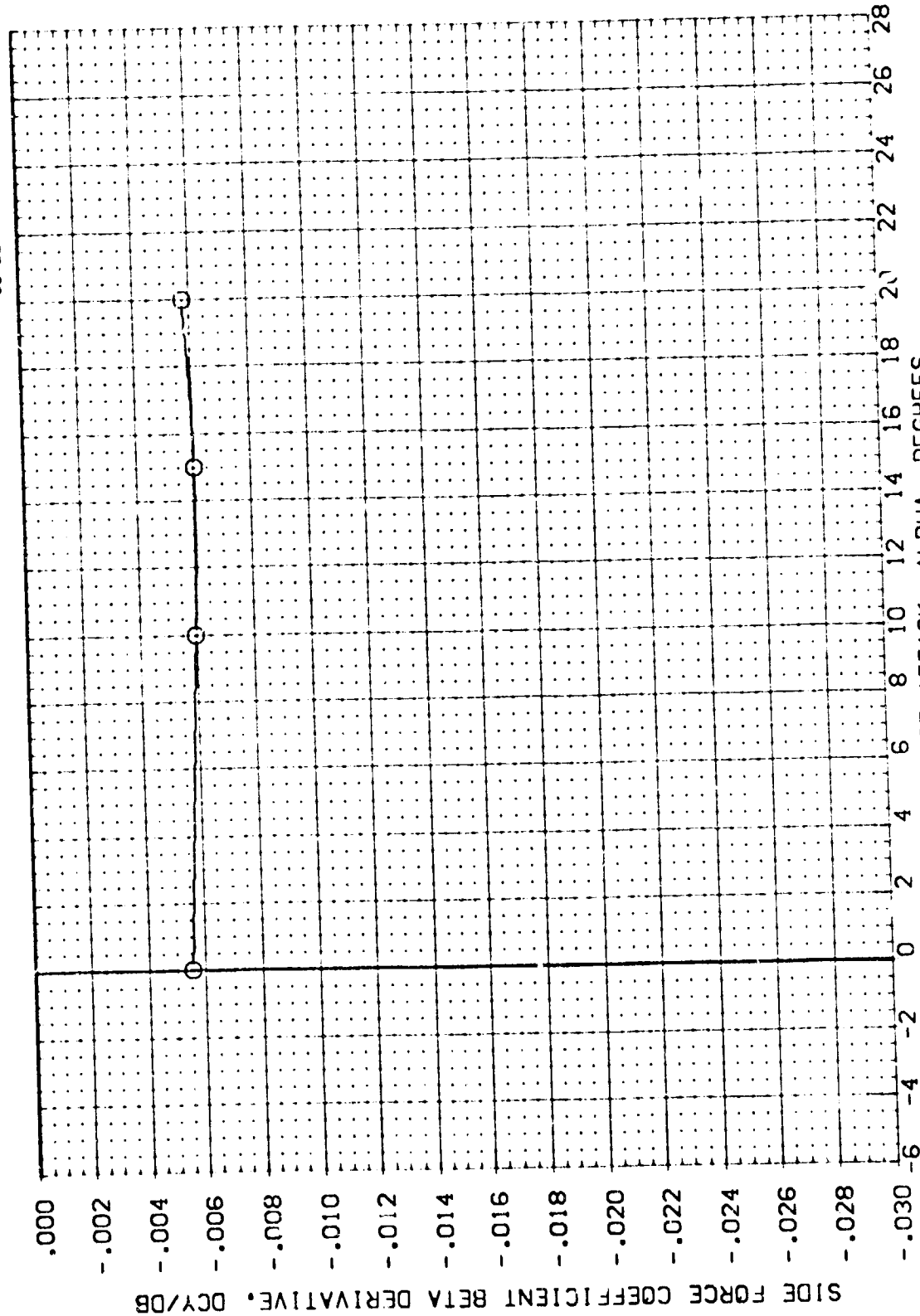


FIGURE 50 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BOFLAP )



(JDP083)

X9

W107E23

E5

R17C7

CA21

REFERENCE INFORMATION  
SQ.F.T. 4.1115  
LREF 19.7299  
BREF 37.5359  
XREF 43.5974  
YREF 16.2733  
SCALE .0405

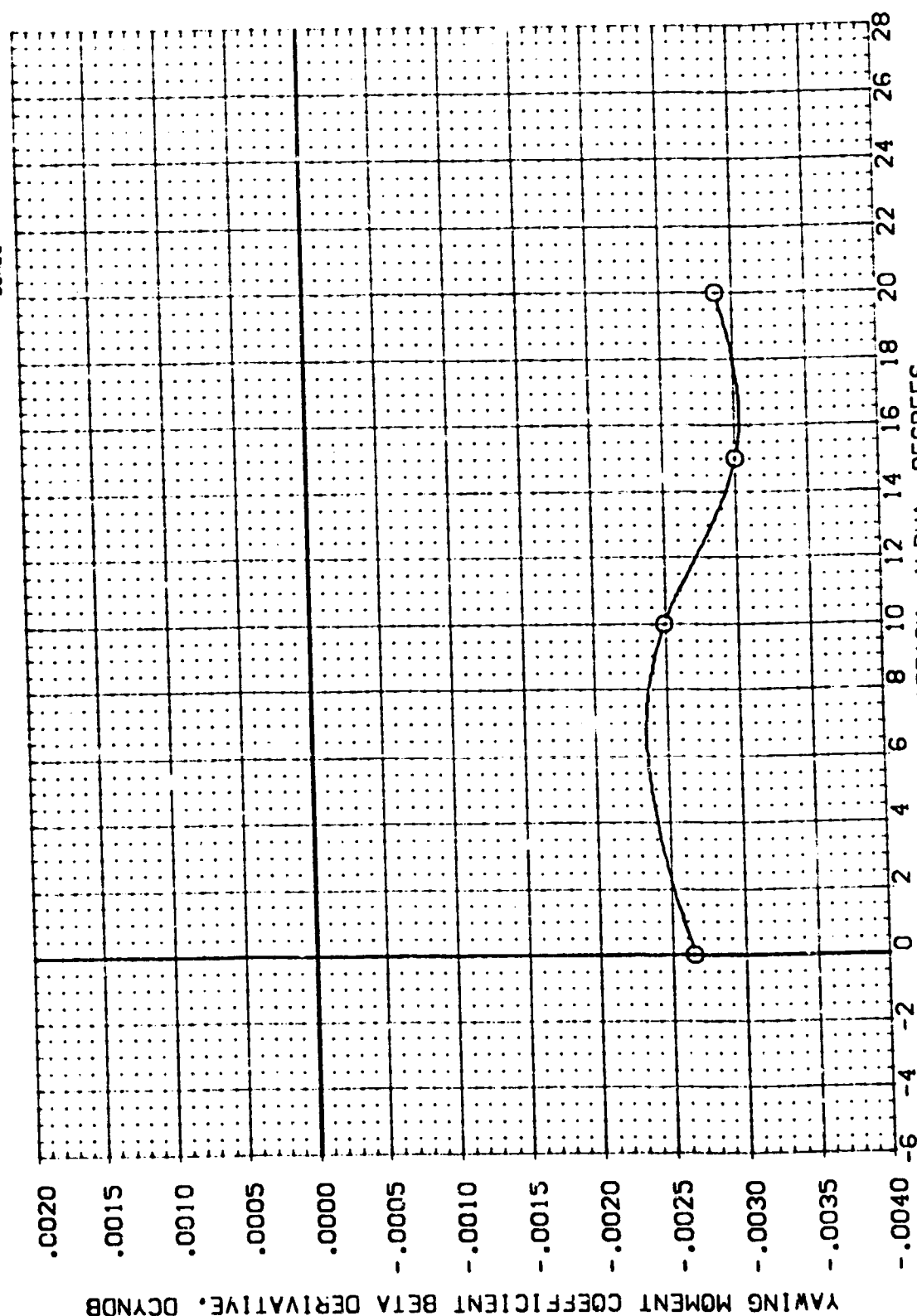
DATA SOURCE  
ALPHA 10.000  
JDP084 20.000  
JDP086

PARAMETRIC VALUES  
ELEVON .000  
JDP083  
JDP085

SYMBOL MACH .260  
BOFLAP ALLCON

PARAMETRIC VALUES  
ELEVON .000  
JDP083  
JDP085

SYMBOL MACH .260  
BOFLAP ALLCON



ANGLE OF ATTACK, ALPHA, DEGREES

FIGURE 51 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BOFLAP+WING )



(JDP083)

X9

W107E23

F5

B17C7

CA2:

REFERENCE INFORMATION  
SOFT: 4.4118  
INCHES: 19.2299  
INCHES: 37.9359  
INCHES: 43.5874  
INCHES: 16.2000  
SCALE: .0405

DATA SOURCE  
ALPHA: .000  
JDP083  
JDP085

PARAMETRIC VALUES  
BOFLAP: -18.000  
ATTACH: .000  
ELEVON: .000

MAC: .260  
BOFLAP: -18.000  
ATTACH: .000  
ELEVON: .000

ROLLING MOMENT COEFFICIENT BETA DERIVATIVE, DCBLDB

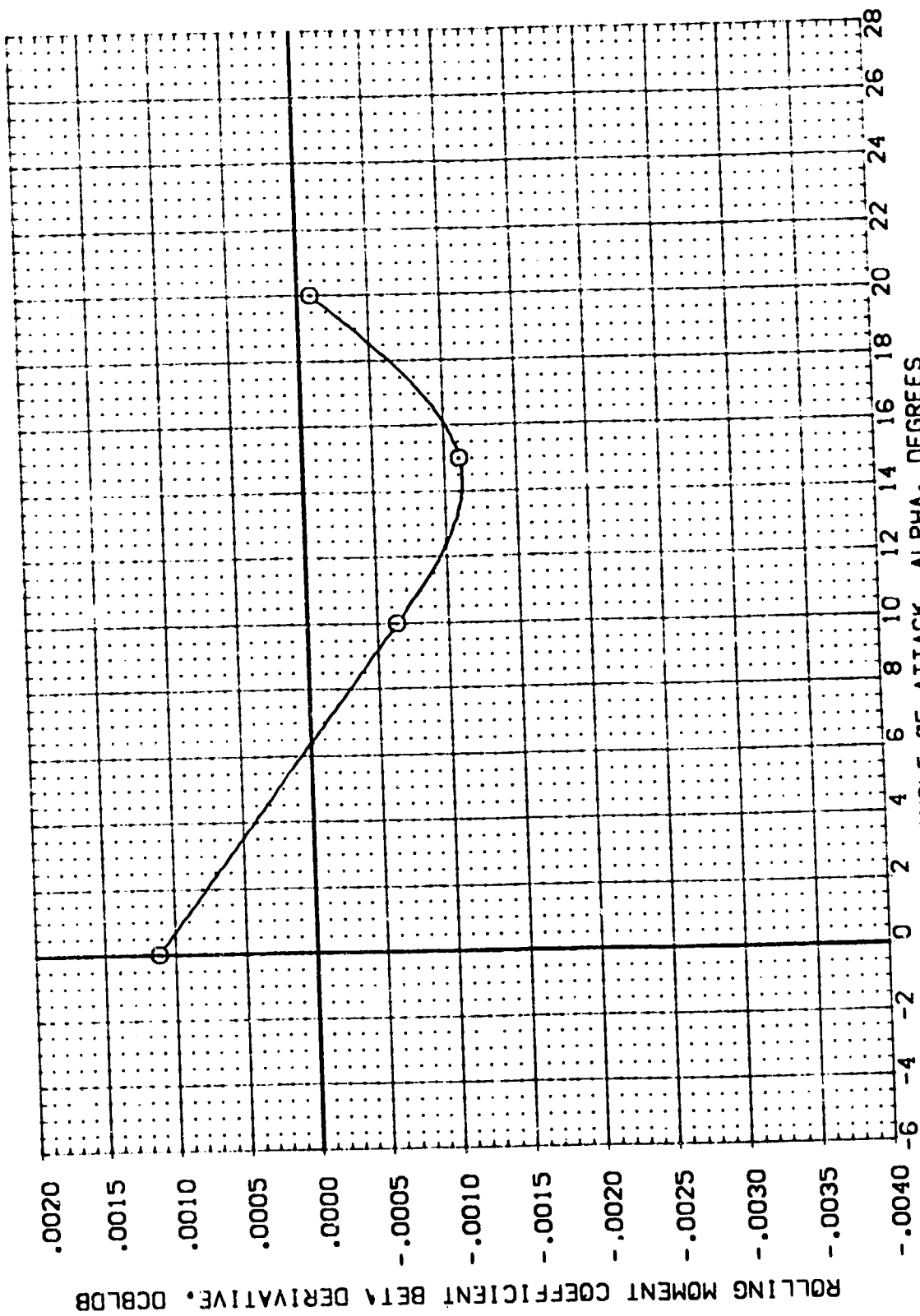


FIGURE 51 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BOFLAP+ATTACH )

(JDP083)

CA2: 8:7C7 F5 W107E23 X9

SYMBOL	MAC	BOFLAP	PARAMETRIC VALUES	DATA SOURCE	ALPHA	ALPHA	REF	REFERENCE INFORMATION
○	.260	AIRCON	-18.000 .000 ELEVON	.000 DATASET DP083 DP085	.000 15.000	10.000 20.000	SREF LREF BREF XREF YREF ZREF SCALE	SO.F. NGLES NGLES NGLES NGLES NGLES NGLES SCALE

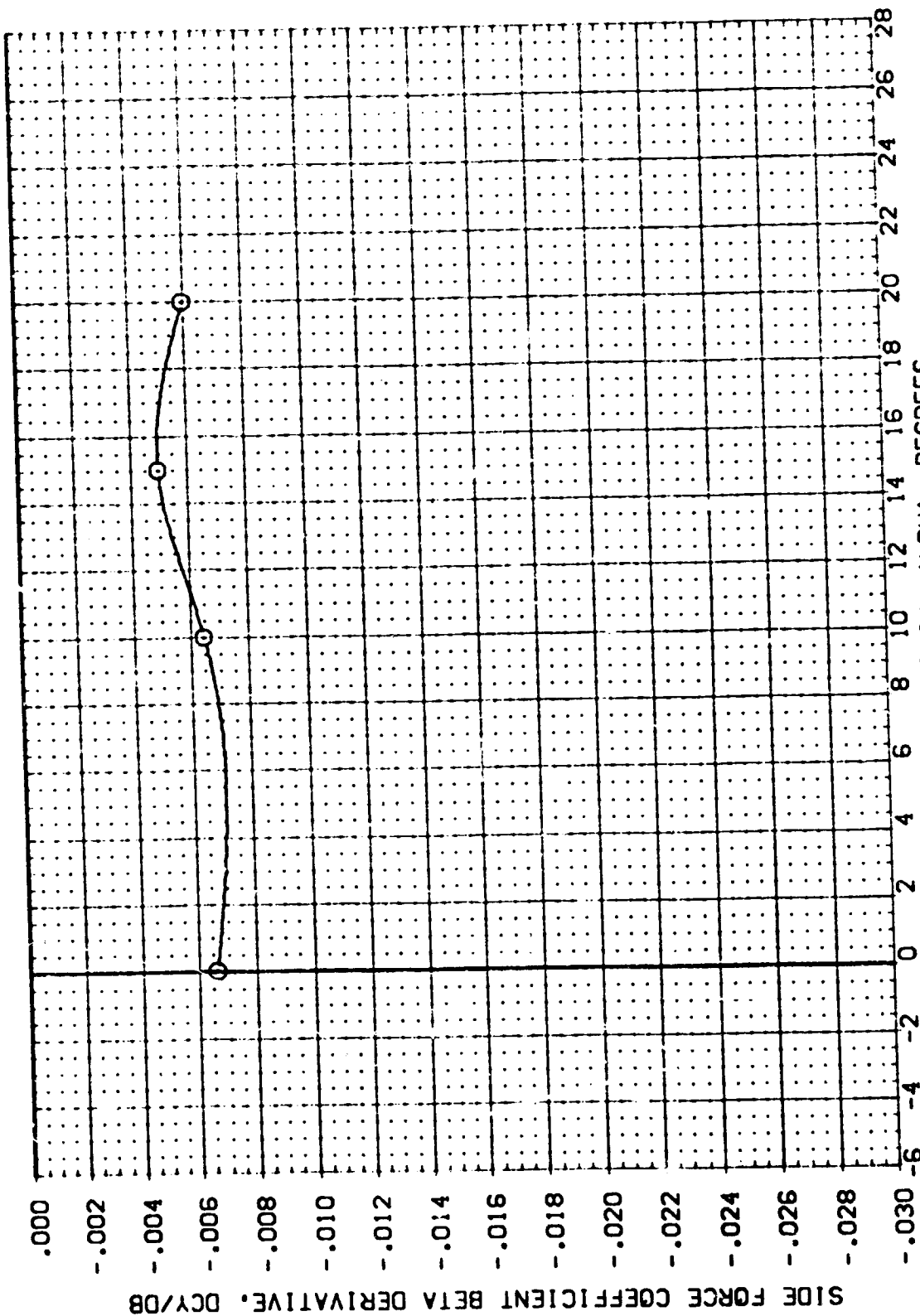


FIGURE 51 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BOFLAP+WING )

11

REFERENCE INFORMATION

4.4119	SO. FT.
19.2293	INCHES
37.9359	INCHES
43.5974	INCHES
.0000	INCHES
16.2000	SCALE
.0405	

DATASET	ALPHA	SREF
UDPC89	10.000	LREF
UDPC91	20.000	BREF
		XMAP
		YMAP
		ZMAP
		SCALE

DATA SOURCE  
ALPHA  
15.000

DATA SET  
JDP088  
JDP090

W1U/EZ3  
.000

5475  
ELECTRIC VALUES  
ELEVON

17C7

A21 3

CL MACH .260

© 2005 SAGE Publications

1

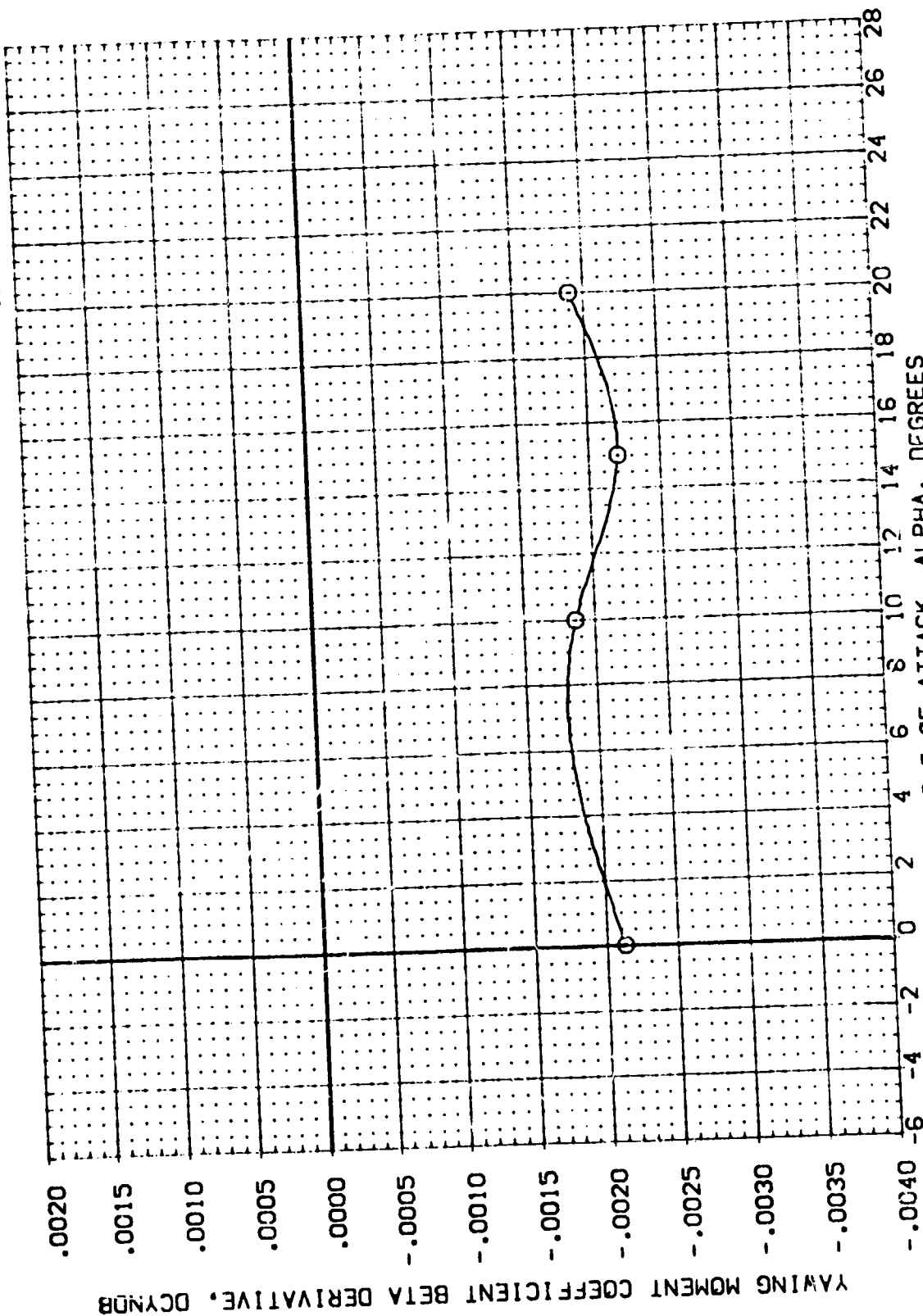


FIGURE 52 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BDFLAP+<sup>W</sup>ING+OMS)





(JDP088)

X9

W107E23

M4F5

3:7C7

CA2:

SYMBOL MACH .260  
PARAMETRIC VALUES  
REFLAP -18.000  
ALPHA .000  
ELEVON .000

DATA SOURCE  
ALPHA .000  
15.000

REFERENCE INFORMATION  
SREF 4.4119  
LREF 19.2299  
BREF 37.9359  
YMRP 43.5974  
ZMRP 16.0000  
SCALE .0405

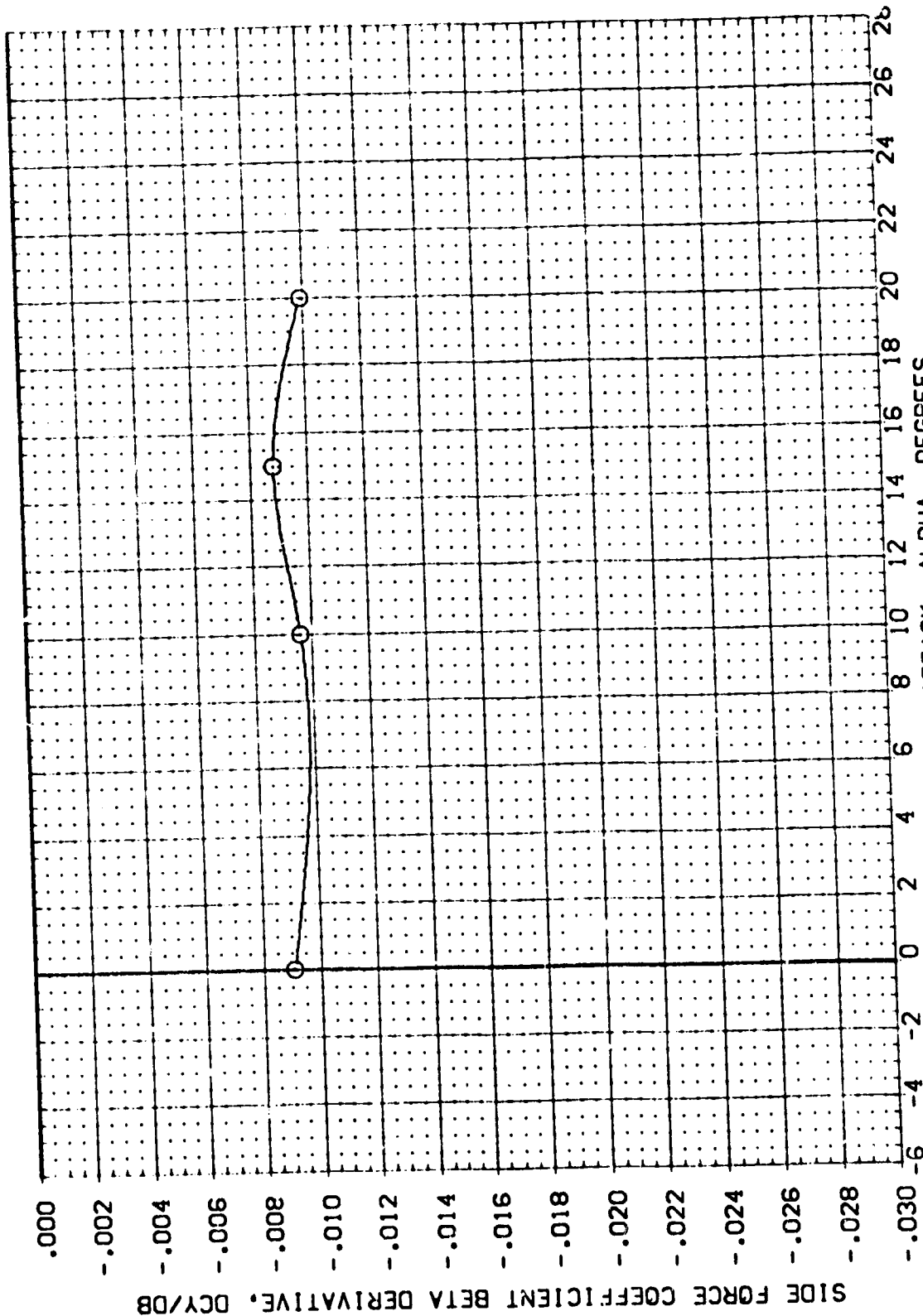


FIGURE 52 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( BODY+CANOPY+BDFLAP+VING+OMS)

(JDP010)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL MACH  
O .260

PARAMETRIC VALUES  
REFLAP -18.000 ELEVON  
AILRON .000 VTILNC  
RUDDER .000 SPOBRK

DATA SOURCE  
ALPHA .000  
JDP011 15.000  
JDP013

DATA SOURCE  
ALPHA .000  
JDP010 15.000  
JDP012

PARAMETRIC VALUES  
REFLAP -18.000 ELEVON  
AILRON .000 VTILNC  
RUDDER .000 SPOBRK

DATA SOURCE  
ALPHA .000  
JDP011 15.000  
JDP013

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.5359 INCHES  
XMRP 43.5574 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

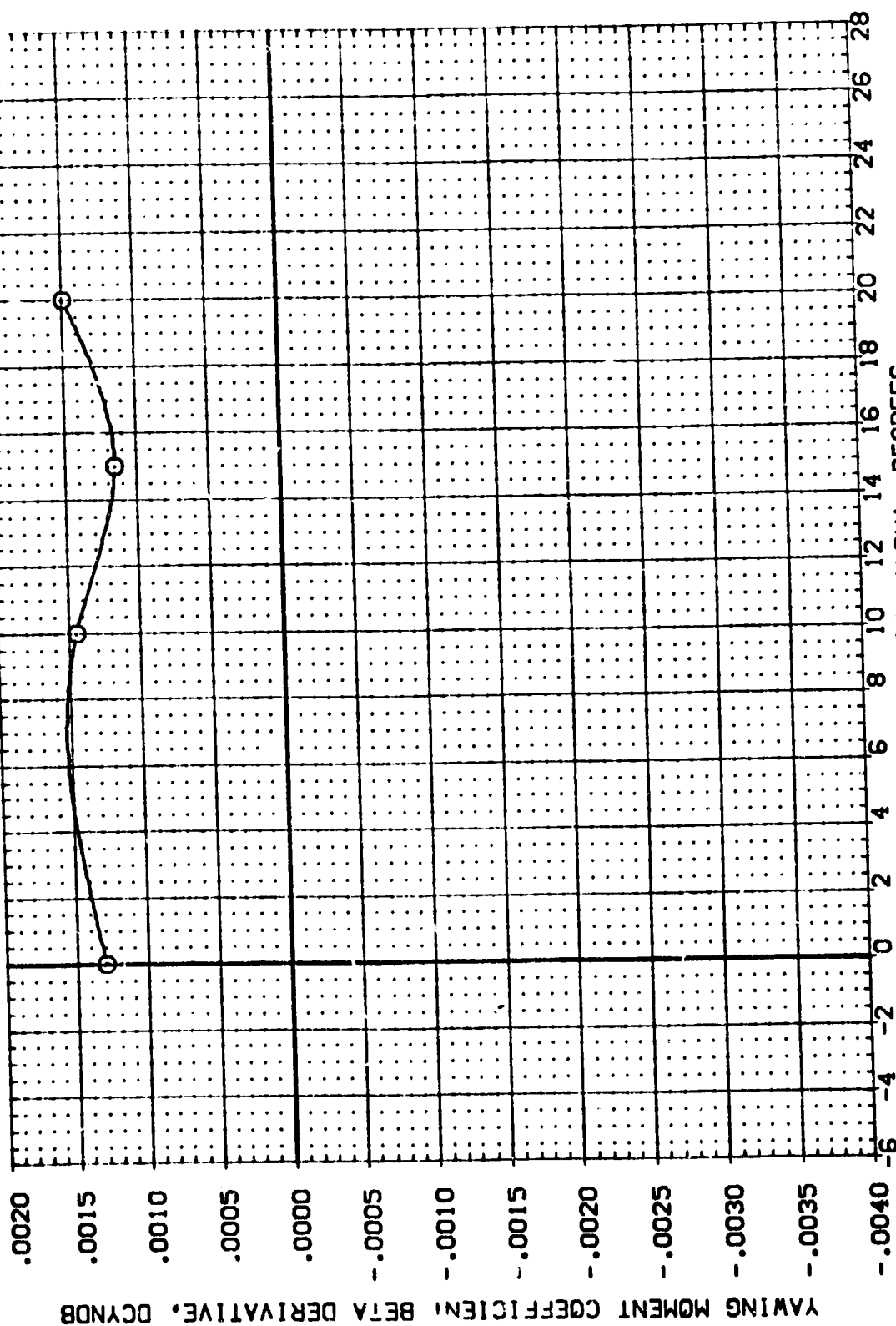


FIGURE 53 LAT/OIR DERIVATIVE VARIATION WITH ALPHA ( TOTAL CONFIGURATION )



0A21 B17C7 M4F5 W107E23V7R6X9 (JDP010)

SYMBOL	MACH	BOFLAP	AILRON	RUDER	PARAMETRIC VALUES	DATA SOURCE	ALPHA	DATASET	ALPHA	SREF	REFERENCE INFORMATION
○	.280				.000 ELEVON	ALPHA	.000	JDP011	10.000	LREF	4.4119 SQ.FT.
					.000 VTINC	JDP013	15.000	JDP012	20.000	BREF	19.2289 INCHES
					.000 SPOBRK					XRRP	37.9359 INCHES
										YRRP	43.5974 INCHES
										ZRRP	.0000 INCHES
										SCALE	16.2000 INCHES
											.0405 SCALE

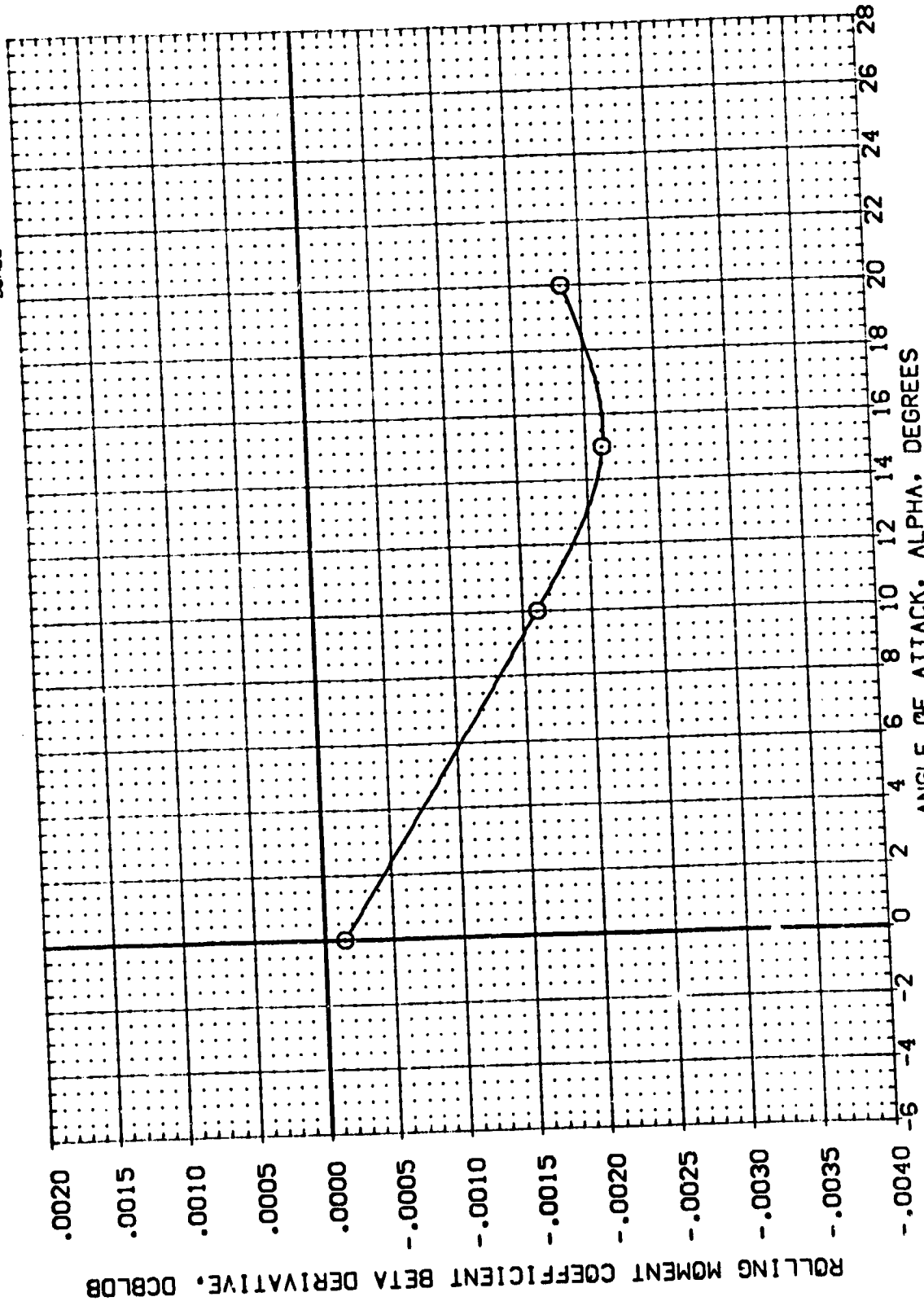


FIGURE 53 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( TOTAL CONFIGURATION )



(JDP010)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
		BOFLAP	ELEVON	VTLINE	SPOBRK	ALPHA	DATASET	ALPHA	SREF	SO.FT.	INCHES
○	.260	.000	.000	.000	.000	.000	JDP010	10.000	LREF	4.4119	INCHES
		.000	.000	.000	.000	15.000	JDP011	20.000	BREF	19.2299	INCHES
							JDP012		XMRP	37.9559	INCHES
									YMRP	43.5574	INCHES
									ZMRP	.0000	INCHES
									SCALE	16.2000	INCHES
										.0405	SCALE

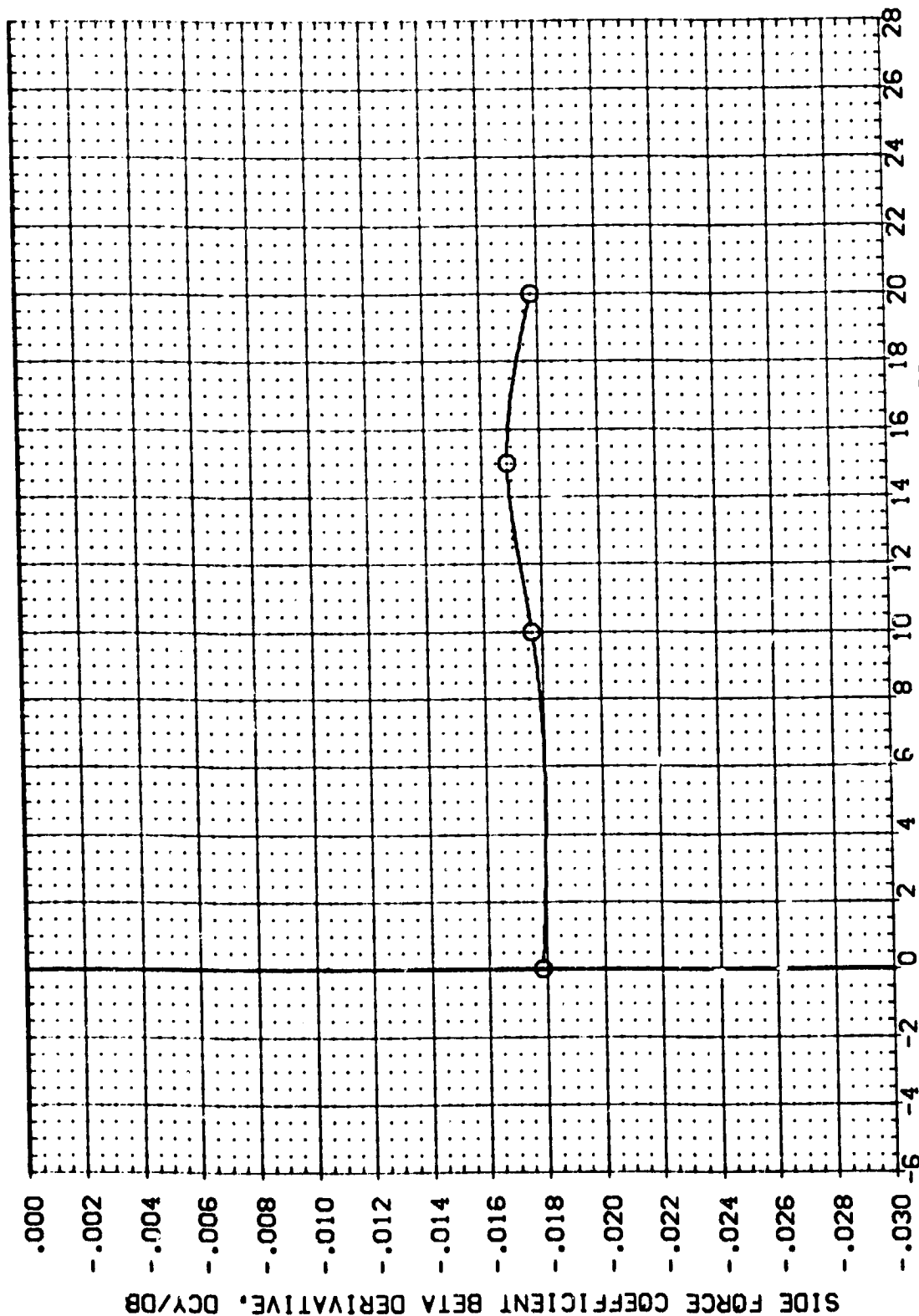


FIGURE 53 LAT/DIR DERIVATIVE VARIATION WITH ALPHA ( TOTAL CONFIGURATION )

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPDRK	REFERENCE INFORMATION	
(RDP068)	DA21 B17C7 MAFS V107E23V7R6X9	10.000	5.000	-18.000	55.000	SREF	4.4119 SQ.FT.
(RDP069)	DA21 B17C7 MAFS V107E23V7R6X9	5.000	10.000	-18.000	55.000	LREF	19.2298 INCHES
(RDP070)	DA21 B17C7 MAFS V107E23V7R6X9	0.000	15.000	-18.000	55.000	BREF	37.5359 INCHES
(RDP071)	DA21 B17C7 MAFS V107E23V7R6X9	-10.000	15.000	-18.000	55.000	YMRP	43.5974 INCHES
						ZMRP	0.0000 INCHES
						SCALE	16.2000 INCHES
							.0405

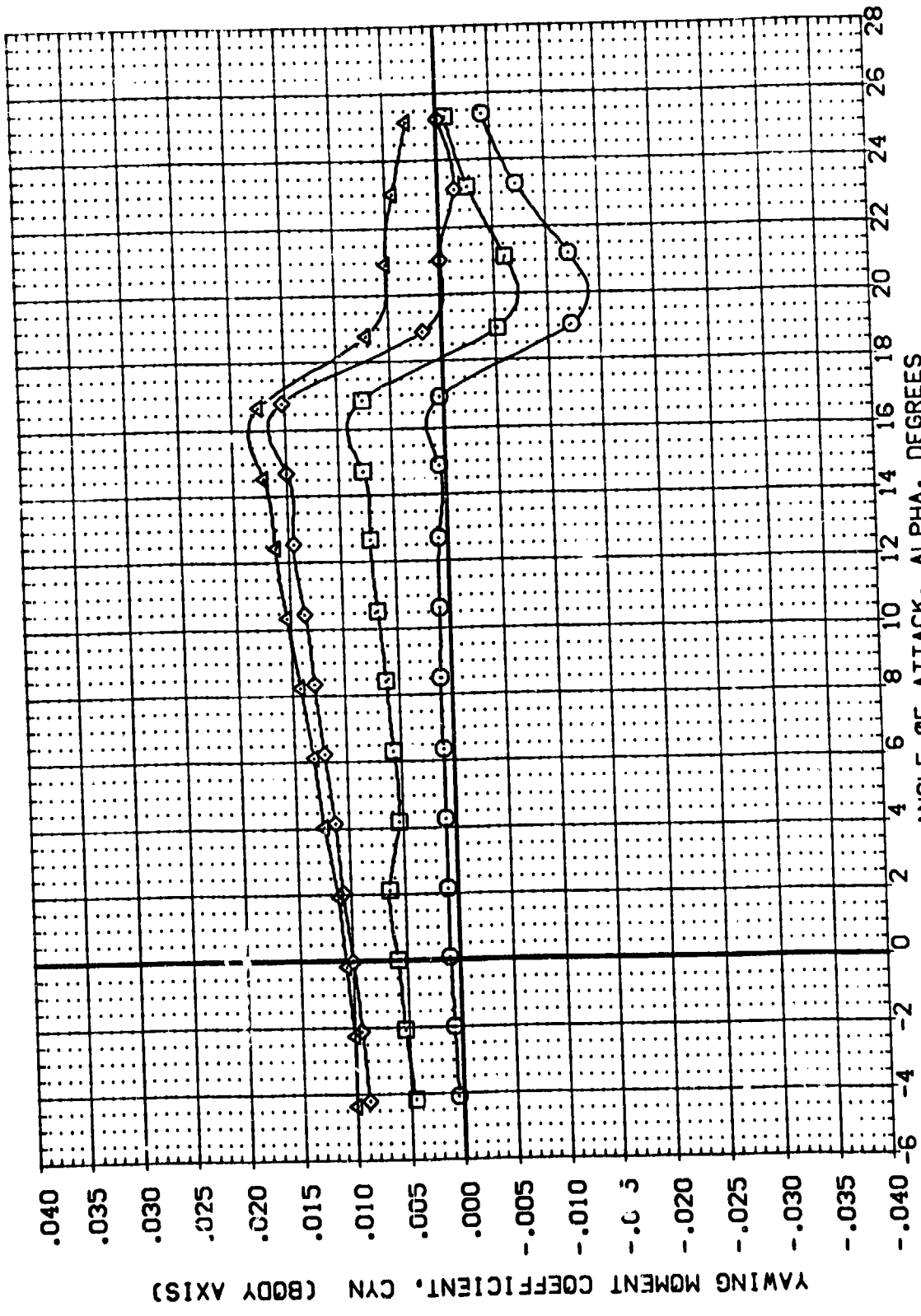


FIGURE 54 LATERAL/DIRECTIONAL EFFECTS OF AILERON DEFLECTION

(A) MACH = .26

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(RDP068)	□	0A21 B17C7 M4F5 V107E23V/R6X9	10.000	5.000	-18.000	55.000	SREF 4.4119 50.000 INCHES
(RDP069)	○	0A21 B17C7 M4F5 V107E23V/R6X9	5.000	10.000	-18.000	55.000	LREF 19.2299 INCHES
(RDP070)	×	0A21 B17C7 M4F5 V107E23V/R6X9	.000	15.000	-18.000	55.000	BREF 37.9359 INCHES
(RDP071)		0A21 B17C7 M4F5 V107E23V/R6X9	-10.000	15.000	-18.000	55.000	XMRP 43.5974 INCHES
							YMRP 16.2000 INCHES
							ZMRP 16.2000 INCHES
							SCALE .0405

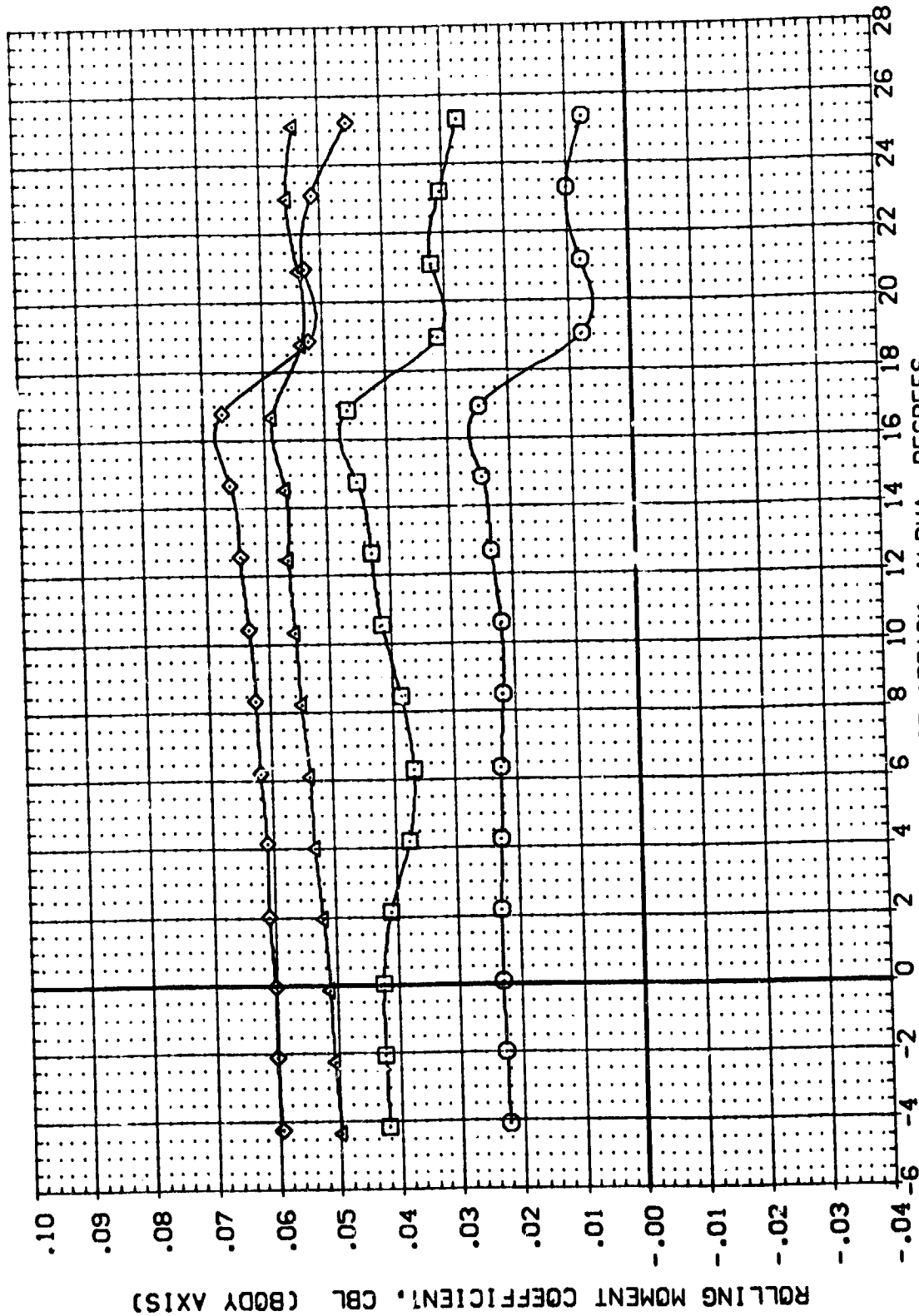


FIGURE 54 LATERAL/DIRECTIONAL EFFECTS OF AILERON DEFLECTION

(A) MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(ROP068)	0A21 817C7 M4F5 V107E23V/TR6XS	10.000	5.000	-18.000	55.000	4.4119 50.0 FT.
(ROP069)	0A21 817C7 M4F5 V107E23V/TR6XS	5.000	10.000	-18.000	55.000	19.2299 INCHES
(ROP070)	0A21 817C7 M4F5 V107E23V/TR6XS	.000	15.000	-18.000	55.000	37.9359 INCHES
(ROP071)	0A21 817C7 M4F5 V107E23V/TR6XS	-10.000	15.000	-18.000	55.000	43.5974 INCHES
						0.0000 INCHES
						16.2000 INCHES
						0.0405 SCALE

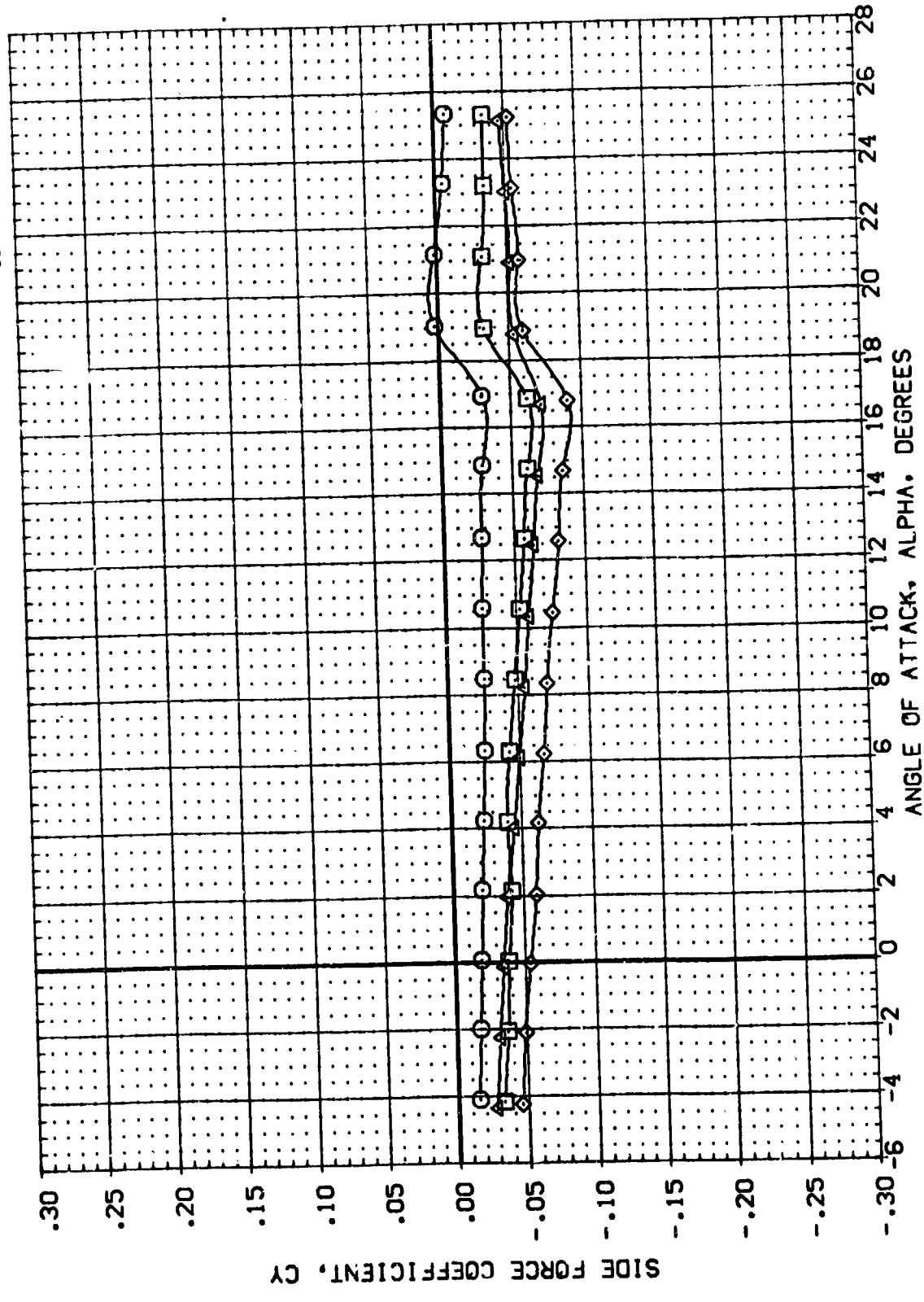


FIGURE 54 LATERAL/DIRECTIONAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		MAXAIL		DETAIL		BOFLAP		SPORBK		REFERENCE INFORMATION	
(NPO68)	OA21	B17C7	M4F5	V17E23V7R6X9	5.000	5.000	-18.000	55.000	SREF	4.4119	50.000	INCHES	
(NPO69)	OA21	B17C7	M4F5	V107E23V7R6X9	10.000	10.000	-18.000	55.000	LREF	19.2299	INCHES		
(NPO70)	OA21	B17C7	M4F5	V107E23V7R6X9	15.000	15.000	-18.000	55.000	BREF	37.9359	INCHES		
									XREF	43.5974	INCHES		
									YREF	16.0000	INCHES		
									ZREF	16.0000	INCHES		
									SCALE	.0405	SCALE		

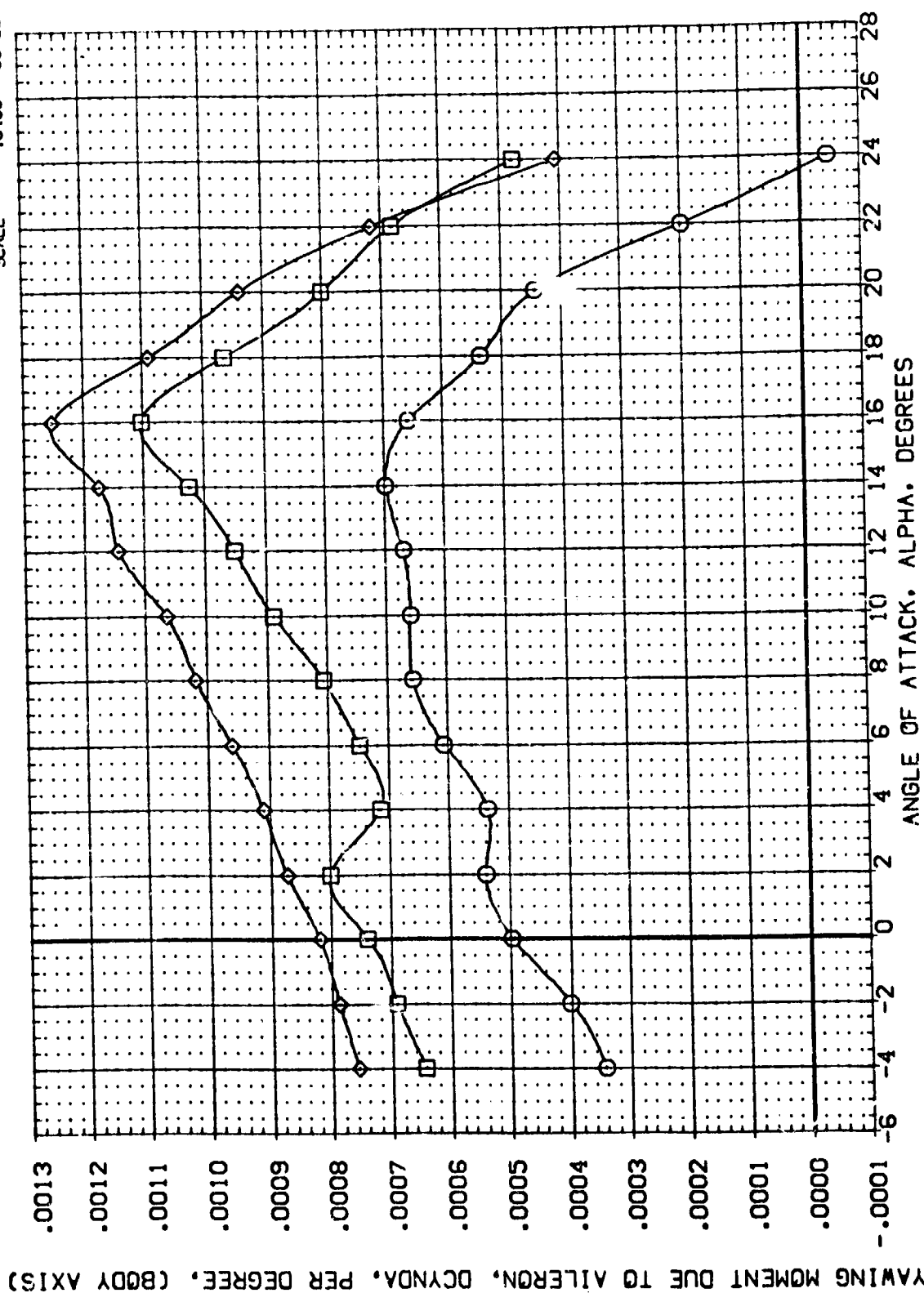


FIGURE 54 LATERAL/DIRECTIONAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL: (NDP068) (NDP069) (NDP070)

CONFIGURATION DESCRIPTION: 0A21 B17C7 MAFS V107E23V7R6X9 0A21 B17C7 MAFS V107E23V7R6X9 0A21 B17C7 MAFS V107E23V7R6X9

MAXAIL: 5.000 10.000 15.000

DELAIL: 5.000 10.000 15.000

BOFLAP: -18.000 -18.000 -18.000

SPOBRK: 55.000 55.000 55.000

REFERENCE INFORMATION: 4.4119 SQ.FT. 19.2298 INCHES 37.9559 INCHES 43.5974 INCHES .0000 INCHES 16.2000 INCHES .0405 SCALE

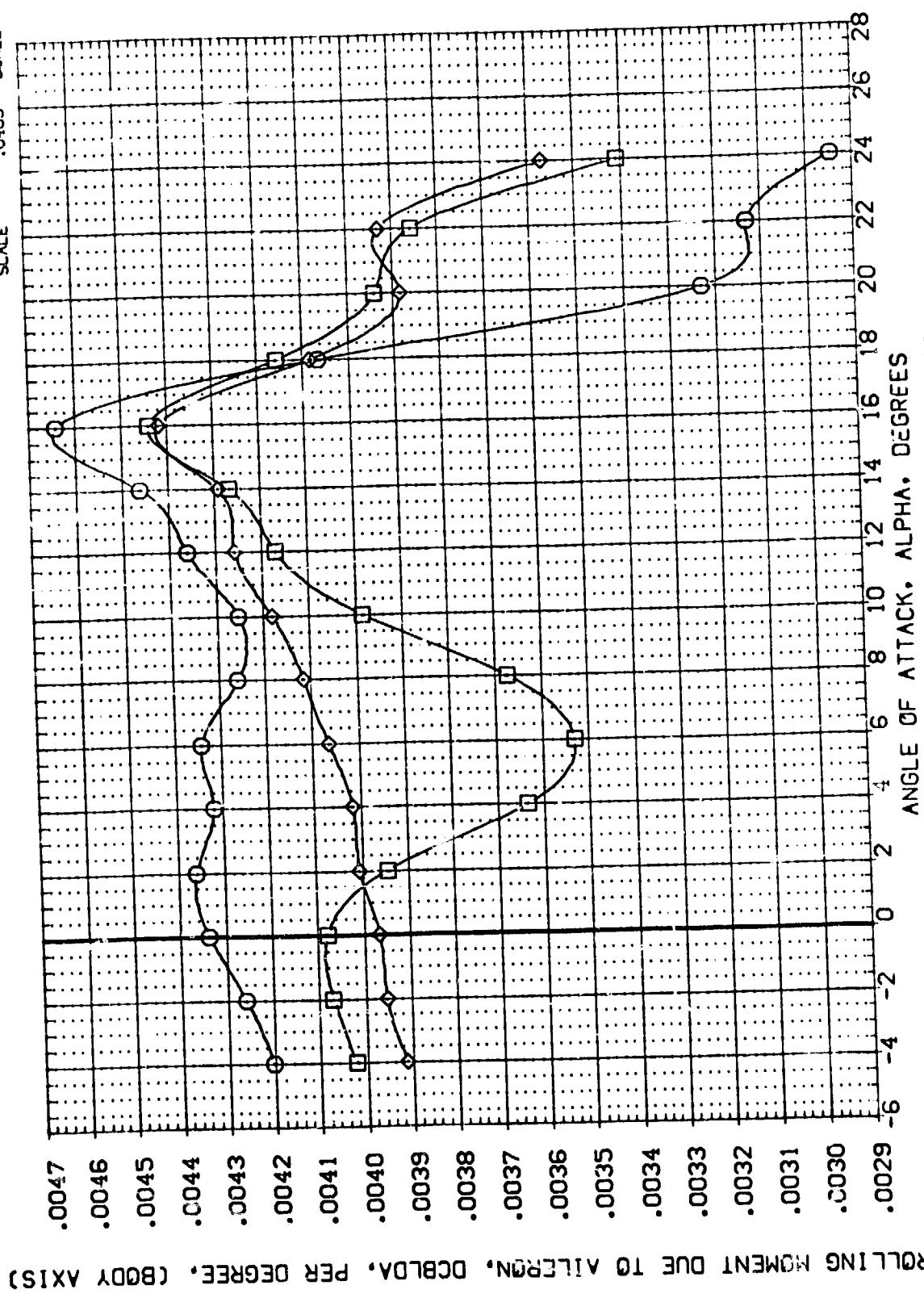


FIGURE 54 LATERAL/DIRECTIONAL EFFECTS OF AILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	MAXAIL	DELTA	BOFLAP	SPOBRK	REFERENCE INFORMATION
(N0008)	0A21 B17C7 MAFS V107E23V/R6X9	5.000	5.000	-18.000	55.000	4.4119 50.000
(N0069)	0A21 B17C7 MAFS V107E23V/R6X9	15.000	15.000	-18.000	55.000	19.2299 100.000
(N0070)	0A21 B17C7 MAFS V107E23V/R6X9	15.000	15.000	-18.000	55.000	37.9369 100.000
						43.5974 100.000
						16.2000 100.000
						SCALE .0405

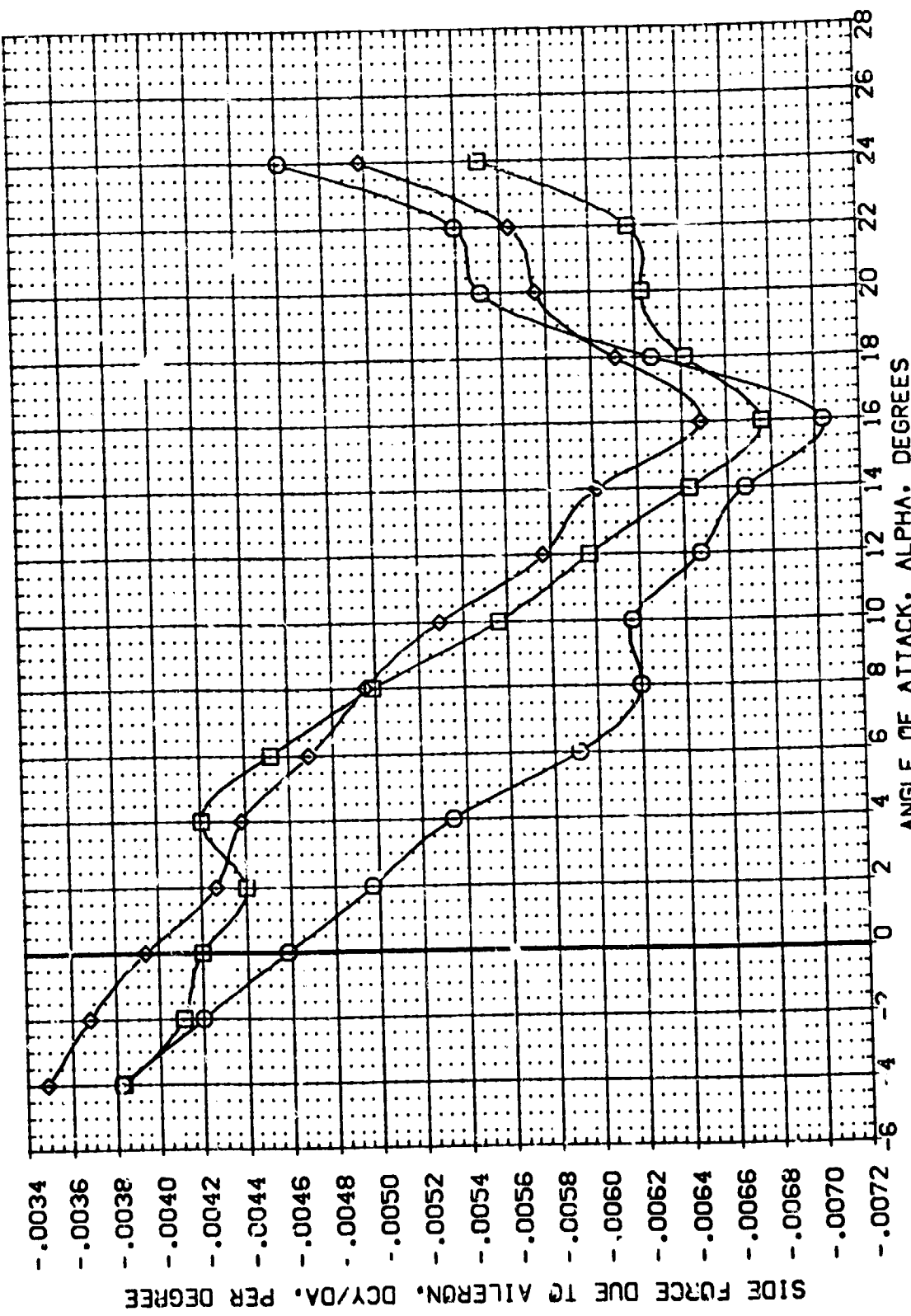


FIGURE 54 LATERAL/DIRECTIONAL EFFECTS OFAILERON DEFLECTION

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(RDP010)    OA21 817C7 MAFS V107E23V7R6X9

(RDP011)    OA21 817C7 MAFS V107E23V7R6X9

(RDP018)    OA21 817C7 MAFS V107E23V7R6X9

ALPHA    AIRLON    RUDDER    SPDBRK

.000    .000    .000    .000

.000    .000    -7.500    .000

.000    .000    -15.000    .000

REFERENCE INFORMATION

SREF 4.4119 SQ.FT.

LREF 19.2299 INCHES

BREF 37.9359 INCHES

XRFP 43.5974 INCHES

YMRP .0000 INCHES

ZMRP 16.2000 INCHES

SCALE .0405

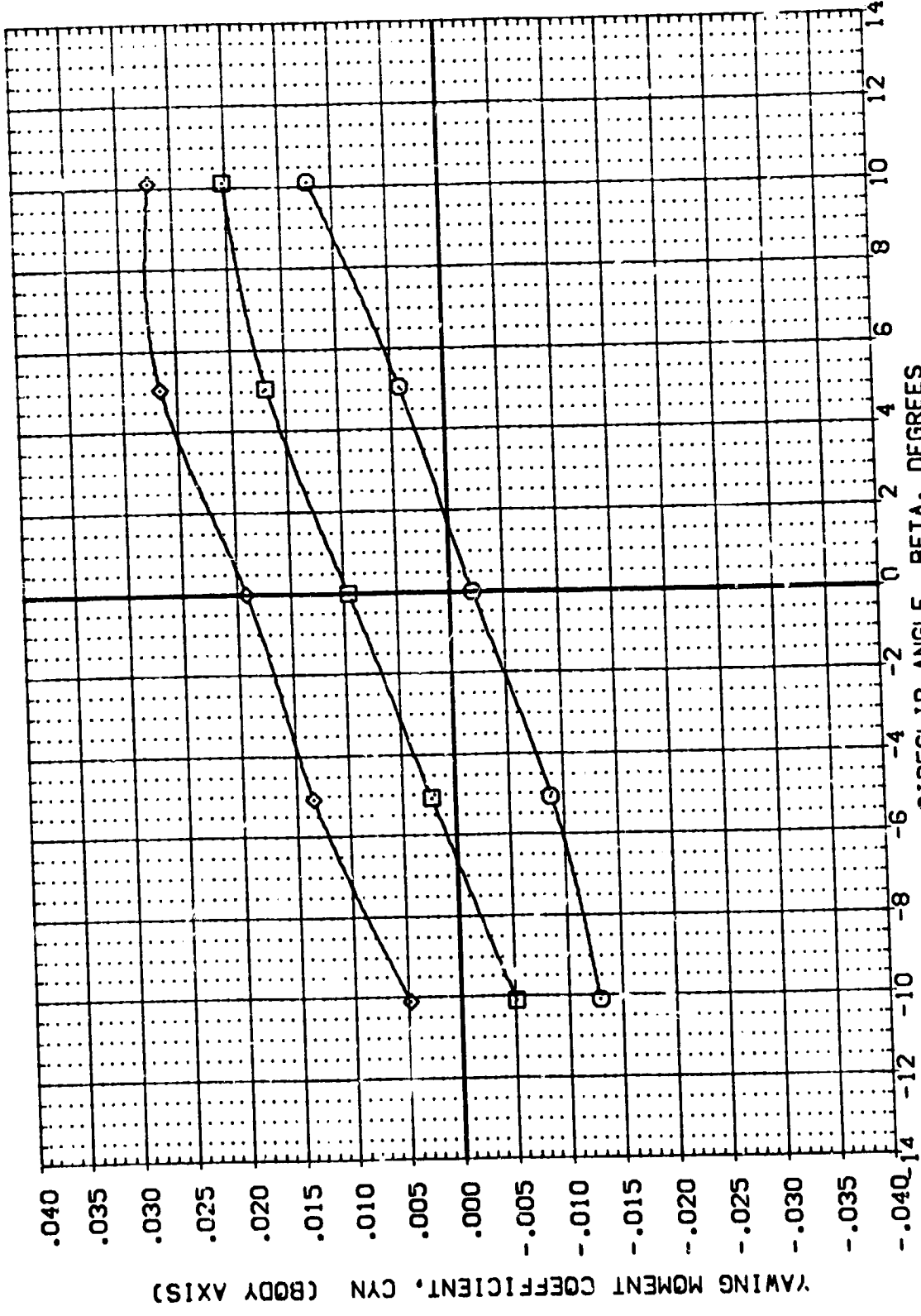


FIGURE 55 RUDDER EFFECTIVENESS WITH SPDBRK = 0 AND ALPHA = 0

CAVMACH = .26



DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(RDP010)    NA21    B17C7    MAFS    V107E23V7R6X9

(RDP014)    NA21    B17C7    MAFS    V107E23V7R6X9

(RDP018)    NA21    B17C7    MAFS    V107E23V7R6X9

ALPHA    AIRLON    RUDDER    SPDBRK

.000    .000    .000    .000

.000    .000    -7.500    .000

.000    .000    -15.000    .000

REFERENCE INFORMATION

SREF    4.4119    SQ.FT.

LREF    19.2289    INCHES

BREF    37.9359    INCHES

YMRP    43.5974    INCHES

ZMRP    .0000    INCHES

SCALE    16.2000    INCHES

SCALE    .0405    SCALE

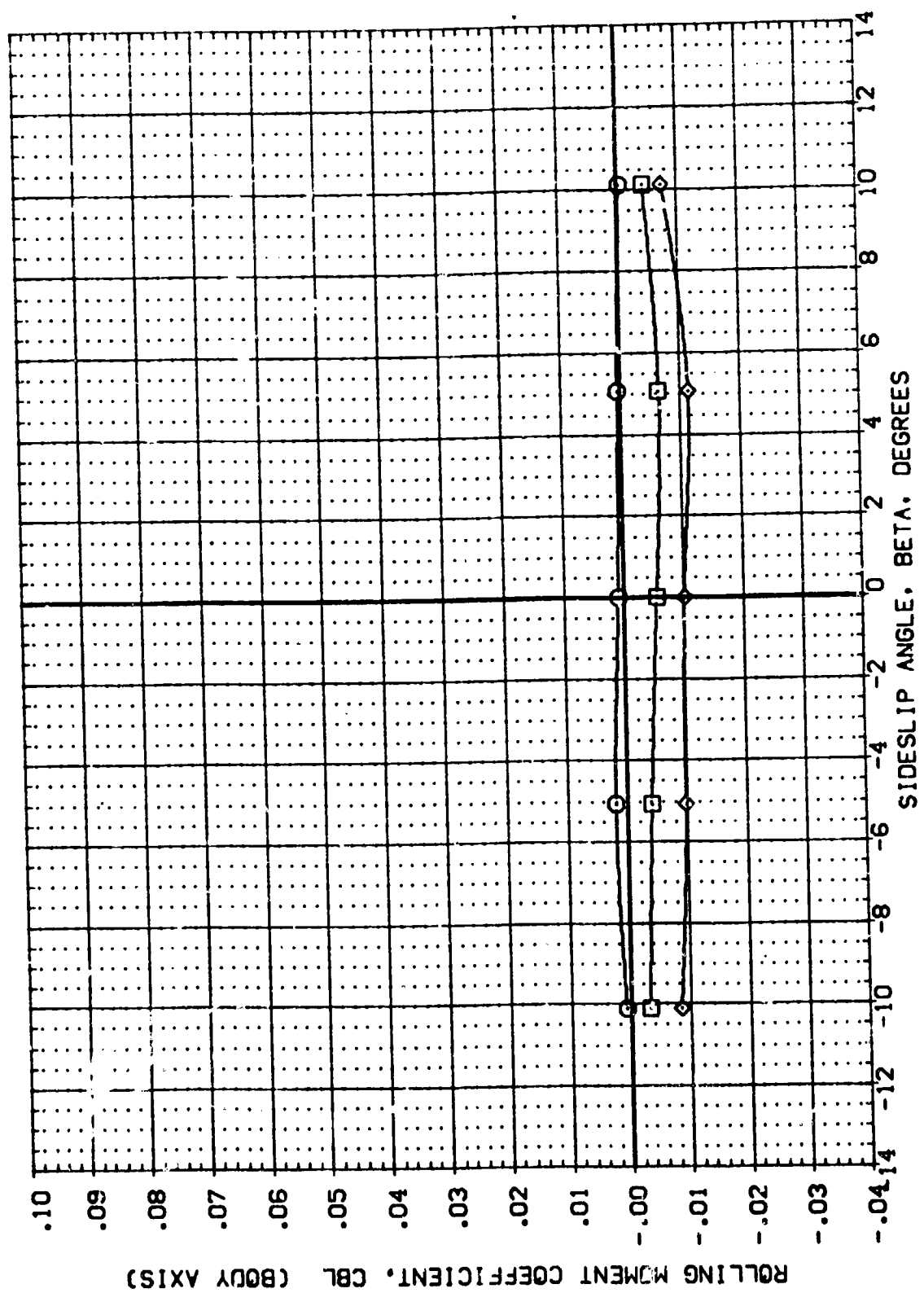
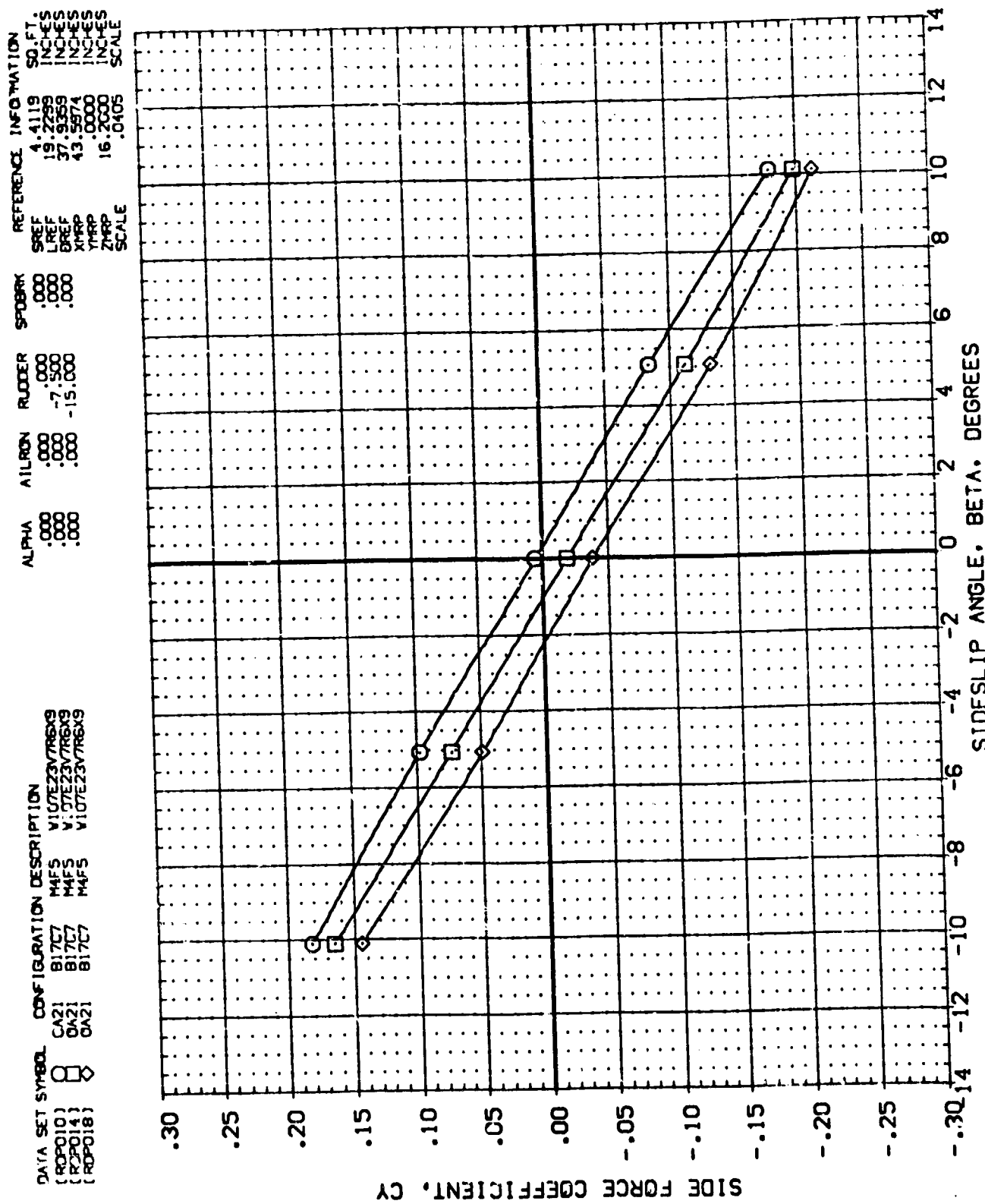


FIGURE 55 RUDDER EFFECTIVENESS WITH SPDBRK = 0 AND ALPHA = 0

(A)MACH = .26



DATA SET SYMBOL    CONFIGURATION DESCRIPTION

DA21    B17C7    MAFS    V107EZ3V7R6X3

DA21    B17C7    MAFS    V107EZ3V7R6X3

DA21    B17C7    MAFS    V107EZ3V7R6X3

DA21    B17C7    MAFS    V107EZ3V7R6X3

ALPHA    AIRLON    RUDDER    SPOBRK

10.000    .000    .000    .000

10.000    .000    -7.500    .000

10.000    .000    -15.000    .000

REFERENCE INFORMATION

SREF    4.4119    SQ.FT.

LREF    19.2299    INCHES

BREF    37.9359    INCHES

YMRP    43.5974    INCHES

ZMRP    .0000    INCHES

SCALE    16.2000    INCHES

SCALE    .0405

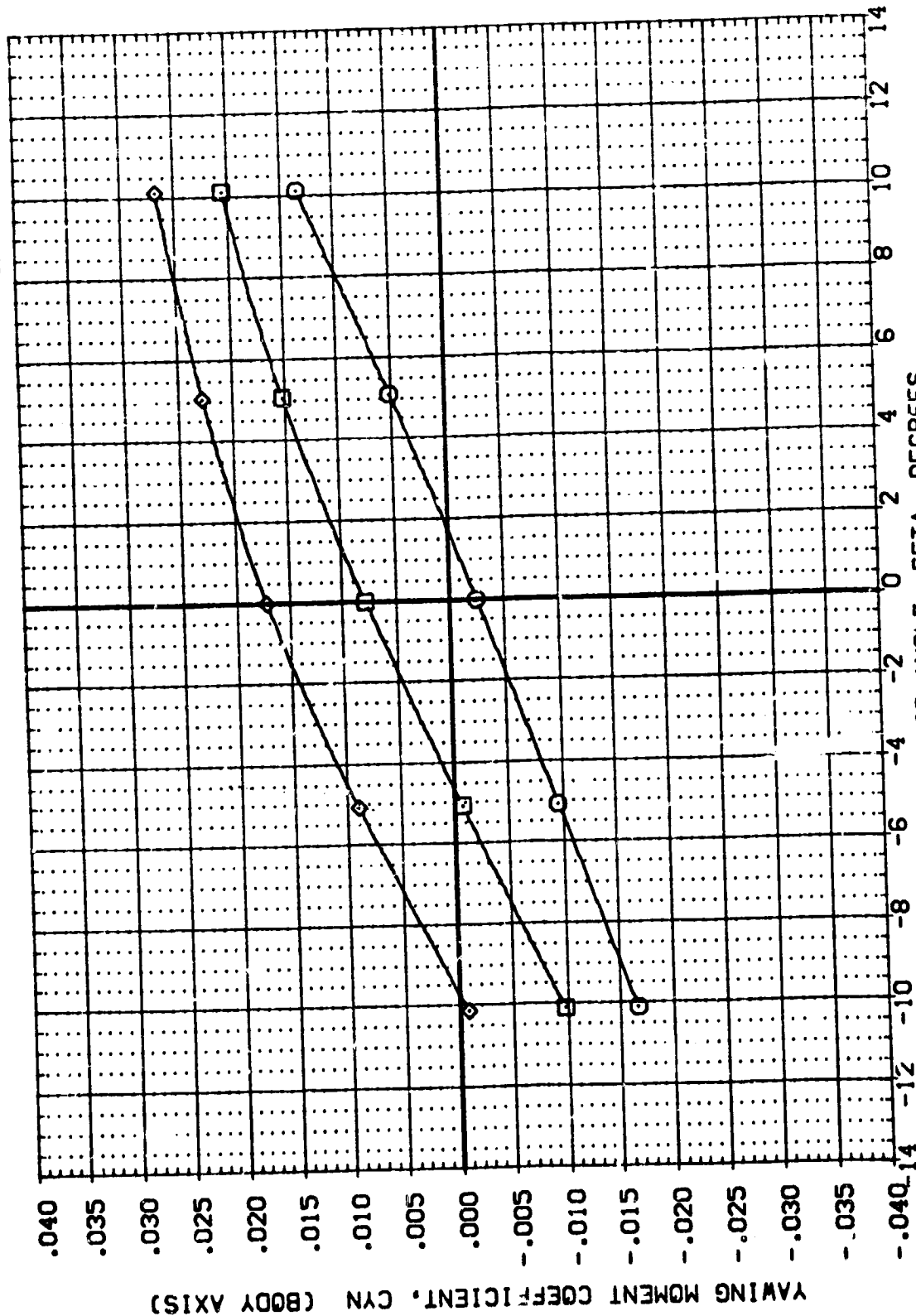


FIGURE 56 RUDDER EFFECTIVENESS WITH SPOBRK = 0 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPOBRK	REFERENCE INFORMATION
[RDP011]	DA21 B17C7 M4F5 V107E23V7RGX9	10.000	.000	.000	.000	SREF 4.4119 SQ.FT.
[RDP015]	DA21 B17C7 M4F5 V107E23V7RGX9	10.000	.000	-7.500	.000	LREF 19.2299 INCHES
[RDP019]	DA21 B17C7 M4F5 V107E23V7RGX9	10.000	.000	-15.000	.000	BREF 37.9359 INCHES
						XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0435

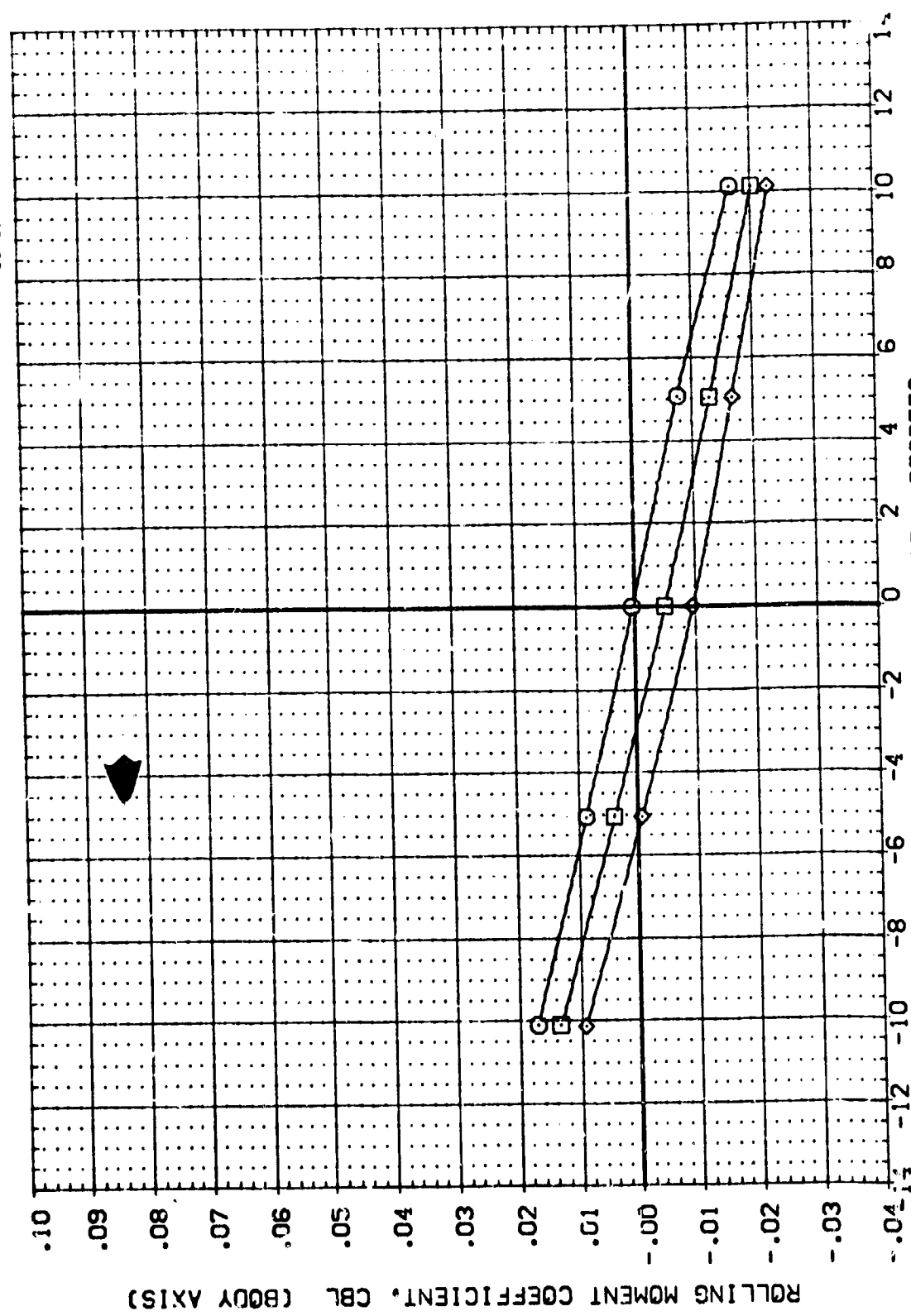


FIGURE 56 RUDDER EFFECTIVENESS WITH SPOBRK = 0 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDRBK	REFERENCE INFORMATION
(R0P011)	0A21 B17C7 MAF3 V107E23V7R6X9	10.000	.000	.000	.000	SREF 4.4119 SQ.FT.
(R0P015)	0A21 B17C7 MAF3 V107E23V7R6X9	10.000	.000	-7.500	.000	LREF 19.2298 INCHES
(R0P019)	0A21 B17C7 MAF5 V107E23V7R6X9	10.000	.000	-15.000	.000	BREF 37.5358 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

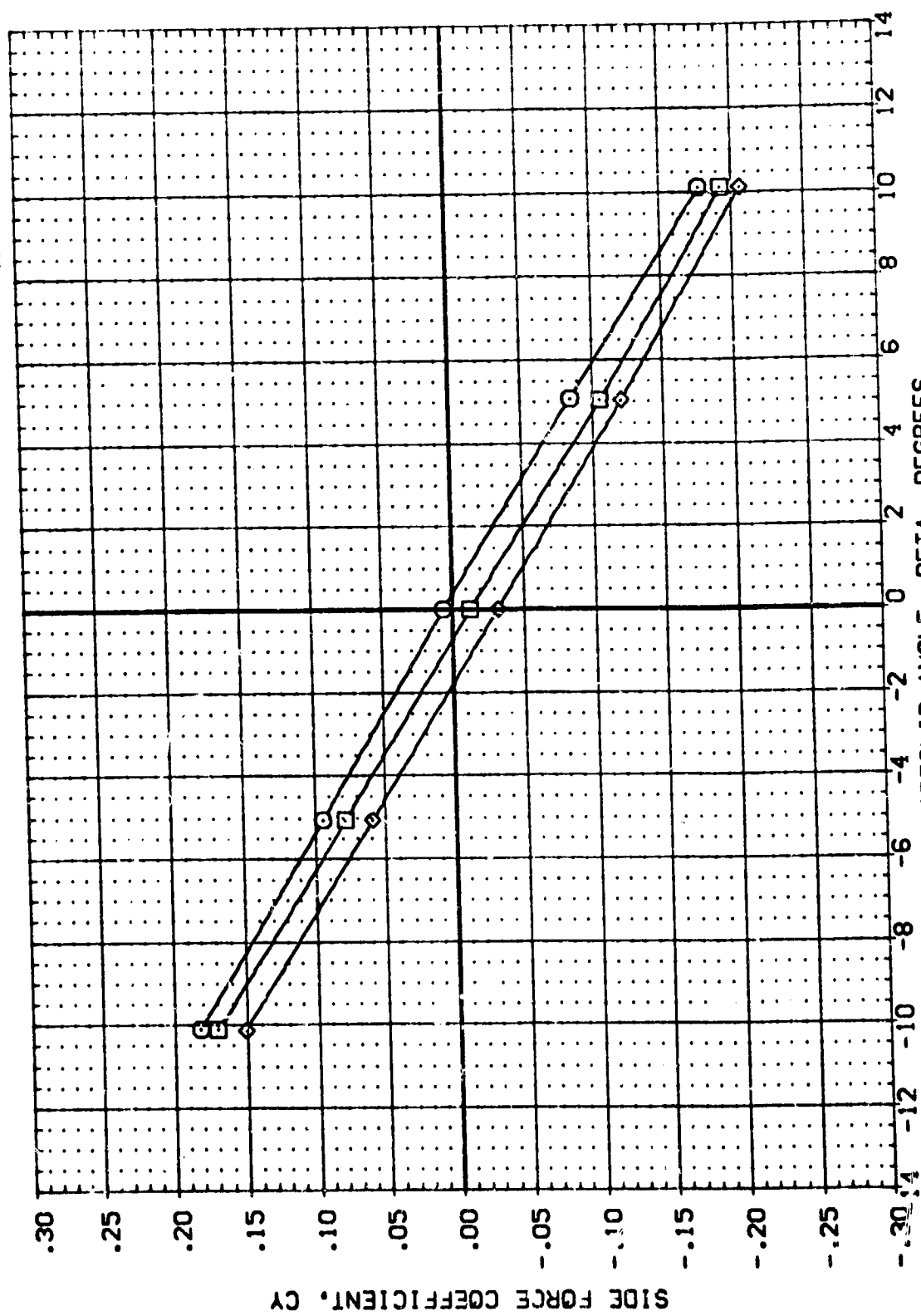


FIGURE 56 RUDDER EFFECTIVENESS WITH SPDRBK = 0 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(RDP021)    0A21    B17C7    M4F5    V107E23V/R6X9

(RDP016)    0A21    B17C7    M4F5    V107E23V/R6X9

(RDP020)    0A21    B17C7    M4F5    V107E23V/R6X9

ALPHA    AILERON    RUDDER    SPDBRK

15.000    .000    .000    .000

15.000    .000    -7.500    .000

15.000    .000    -15.000    .000

REFERENCE INFORMATION

SREF    4.4119    50. FT.

LREF    19.2299    INCHES

BREF    37.9319    INCHES

YMRP    43.5974    INCHES

ZMRP    16.2000    INCHES

SCALE    .0405    SCALE

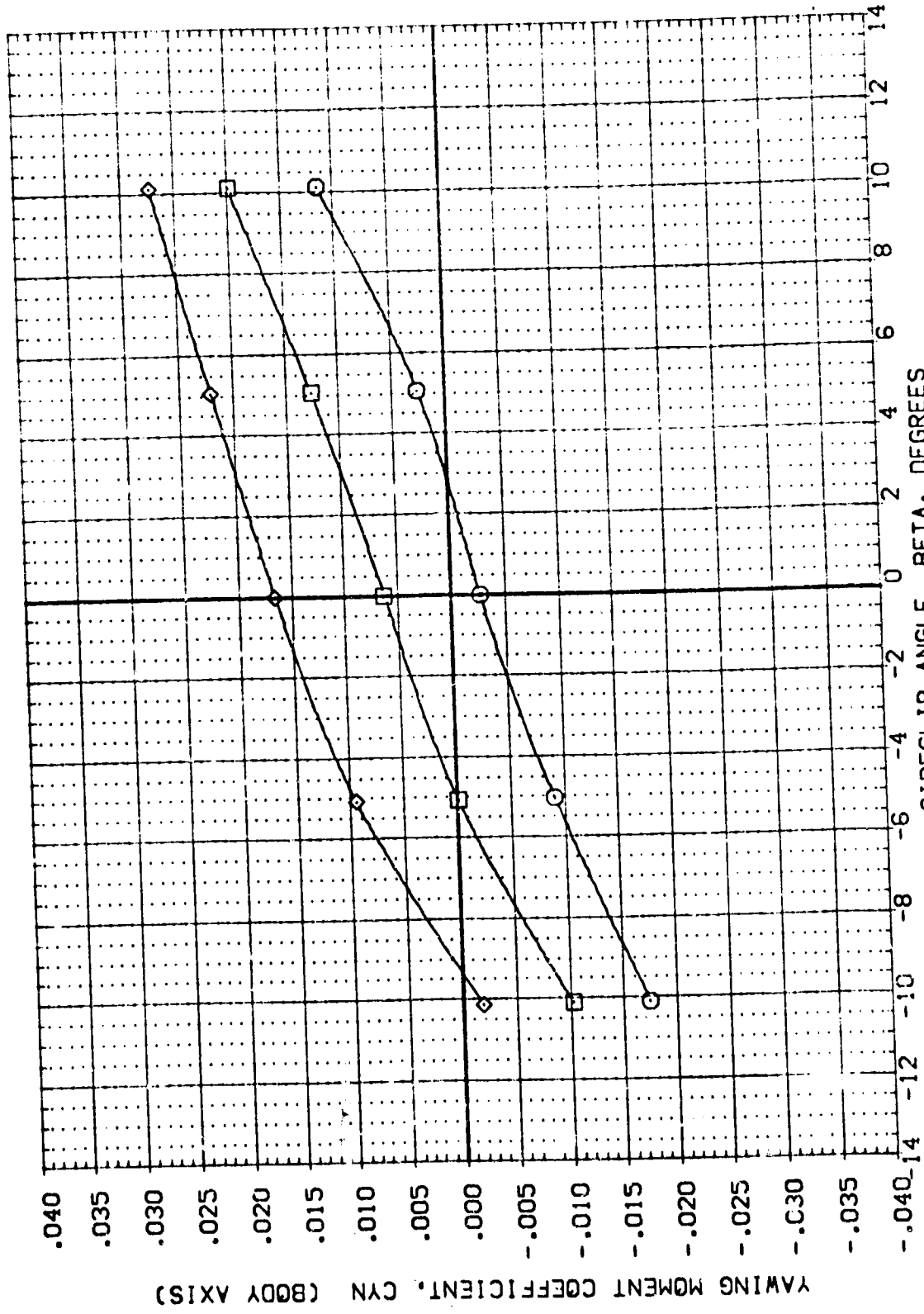


FIGURE 57 RUDDER EFFECTIVENESS WITH SPDBRK = 0 AND ALPHA = 15

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(R0P012)    0A21    B17C7    MAFS    V107E23V7R6X9

(R0P016)    0A21    B17C7    MAFS    V107E23V7R6X9

(R0P020)    0A21    B17C7    MAFS    V107E23V7R6X9

ALPHA    AILRON    RUDDER    SPOBRK

15.000    .000    .000    .000

15.000    .000    -7.500    .000

15.000    .000    -15.000    .000

REFERENCE INFORMATION

SREF    4.4119    SQ.FT.

LREF    19.2289    INCHES

BREF    37.9369    INCHES

XPRP    43.5974    INCHES

YPRP    .0000    INCHES

ZPRP    16.2000    INCHES

SCALE    .0405    SCALE

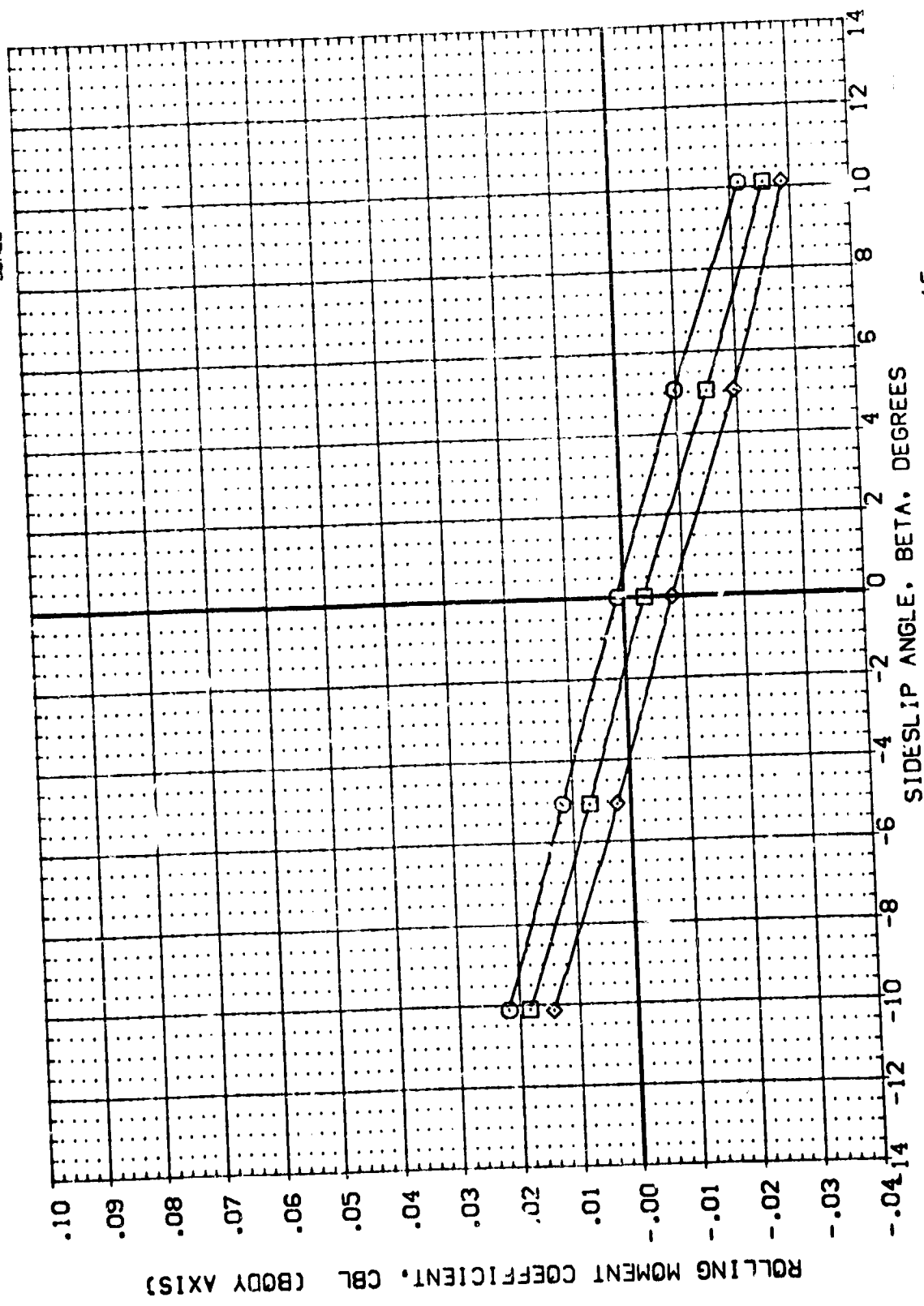


FIGURE 57 RUDDER EFFECTIVENESS WITH SPOBRK = 0 AND ALPHA = 15

(A)MACH = .26

DATA SET SYMBOL  
(RDP012)  
(RDP016)  
(RDP020)

CONFIGURATION DESCRIPTION  
DA21 B17C7 M4FS V107E23V7R6X9  
DA21 B17C7 M4FS V107E23V7R6X9  
DA21 B17C7 M4FS V107E23V7R6X9

ALPHA  
15.000  
15.000  
15.000

AILPON  
.000  
.000  
.000

RUDDER  
.000  
-7.500  
-15.000

SPDBRK  
.000  
.000  
.000

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

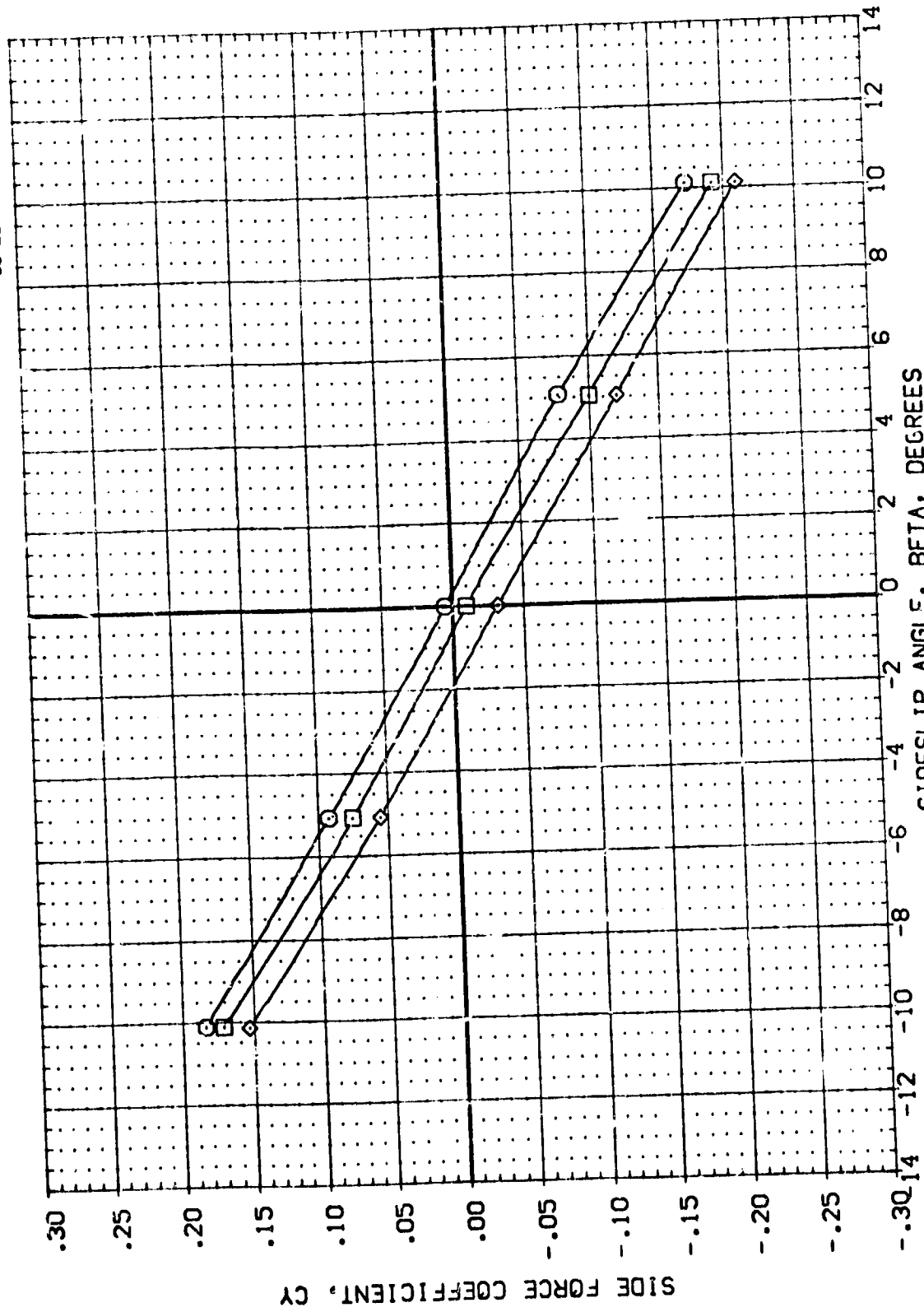


FIGURE 57 RUDDER EFFECTIVENESS WITH SPDBRK = 0 AND ALPHA = 15

(A) MACH = .26



DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RDP013) 0A21 B17C7 MAFS V107E23V7R6X9  
 (RDP017) 0A21 B17C7 MAFS V107E23V7R6X9  
 (RDP021) 0A21 B17C7 MAFS V107E23V7R6X9

ALPHA AILRON RUDDER SPOBRK REFERENCE INFORMATION  
 20.000 .000 .000 .000 SREF 4.4119 SQ.FT.  
 20.000 .000 -7.500 .000 LREF 19.2299 INCHES  
 20.000 .000 -15.000 .000 BREF 37.9359 INCHES  
 X-REF 43.5974 INCHES  
 Y-REF .0000 INCHES  
 Z-REF 16.2000 INCHES  
 SCALE .0405 INCHES

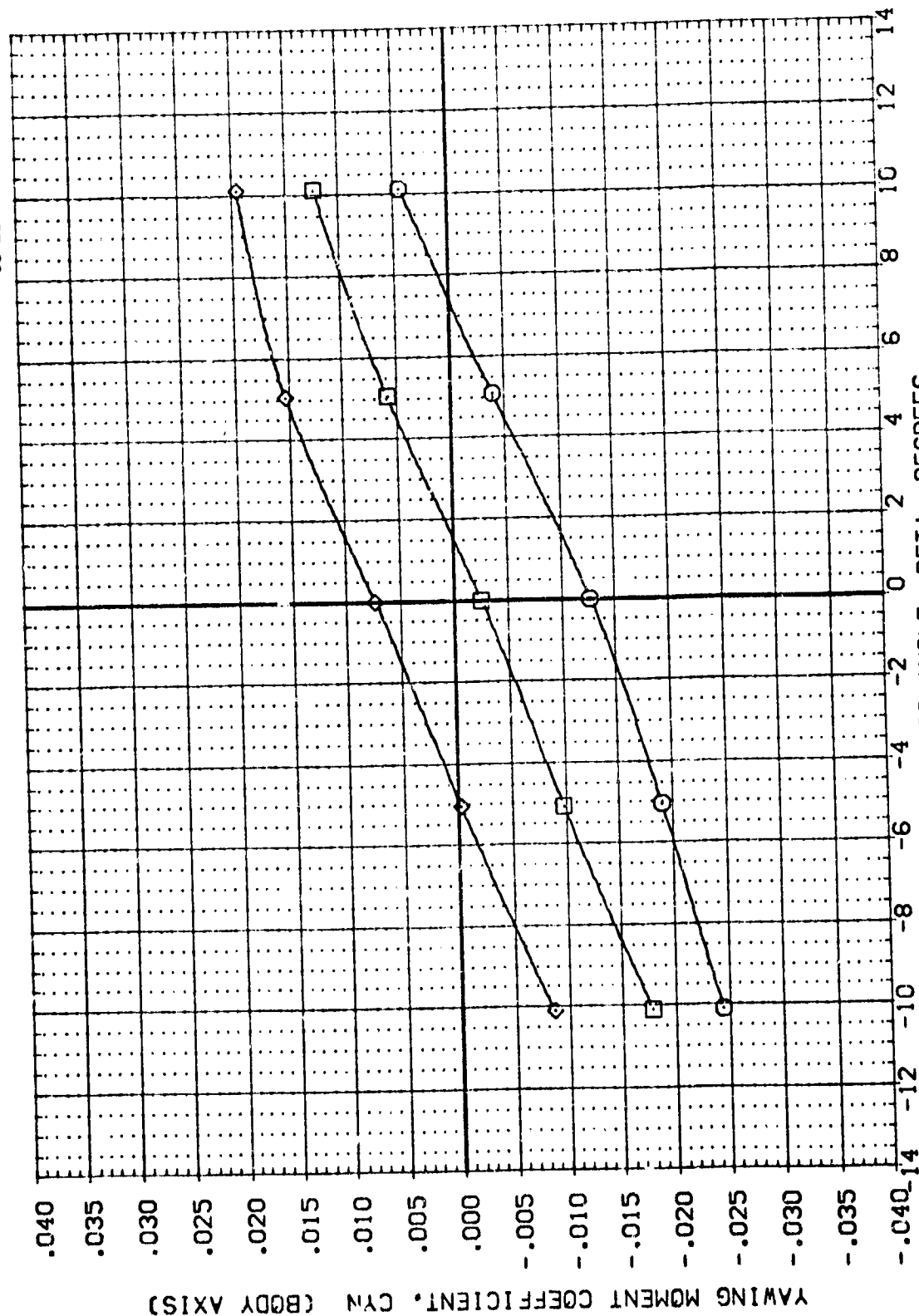


FIGURE 58 RUDDER EFFECTIVENESS WITH SPOBRK = 0 AND ALPHA = 20

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(ROP13)	DA21	B17C7	M4FS	V107E23V7R6X9	50. FT. INCHES
(ROP17)	DA21	B17C7	M4FS	V107E23V7R6X9	19.2299 INCHES
(ROP21)	DA21	B17C7	M4FS	V107E23V7R6X9	37.9359 INCHES
					43.5974 INCHES
					16.2000 INCHES
					SCALE
					.0405

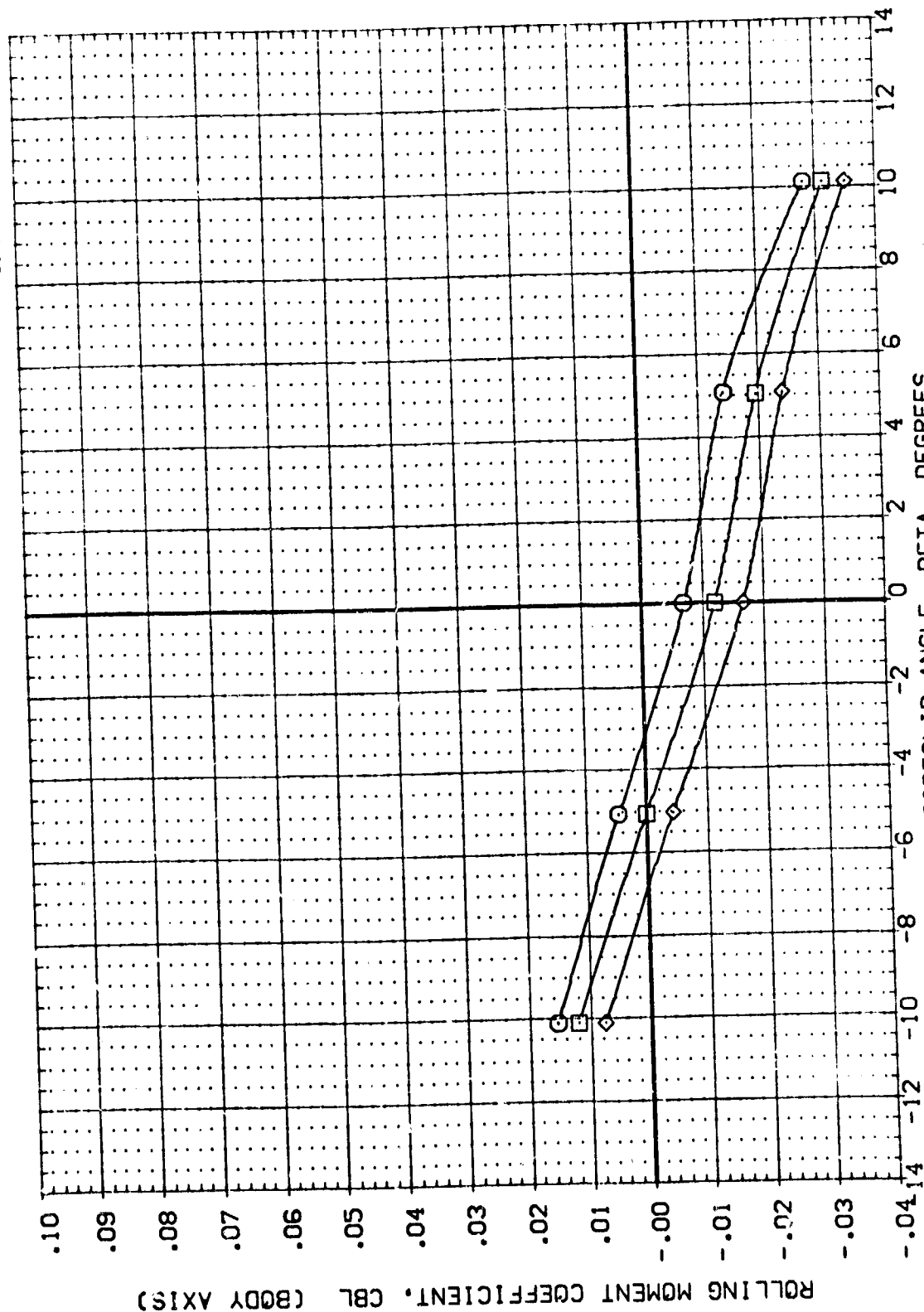


FIGURE 58 RUDDER EFFECTIVENESS WITH SPDBRK = 0 AND ALPHA = 20

(M)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(RDP013)	GA21	B17C7	M4F5	V107E23V7R6X9	SREF 4.4119 SC.FT.
(RDP017)	GA21	B17C7	M4F5	V107E23V7R6X9	LREF 19.2299 INCHES
(RDP021)	GA21	B17C7	M4F5	V107E23V7R6X9	BREF 37.9359 INCHES
					XMREF 43.5974 INCHES
					YMREF 16.0000 INCHES
					ZMREF 16.2000 INCHES
					SCALE .0405

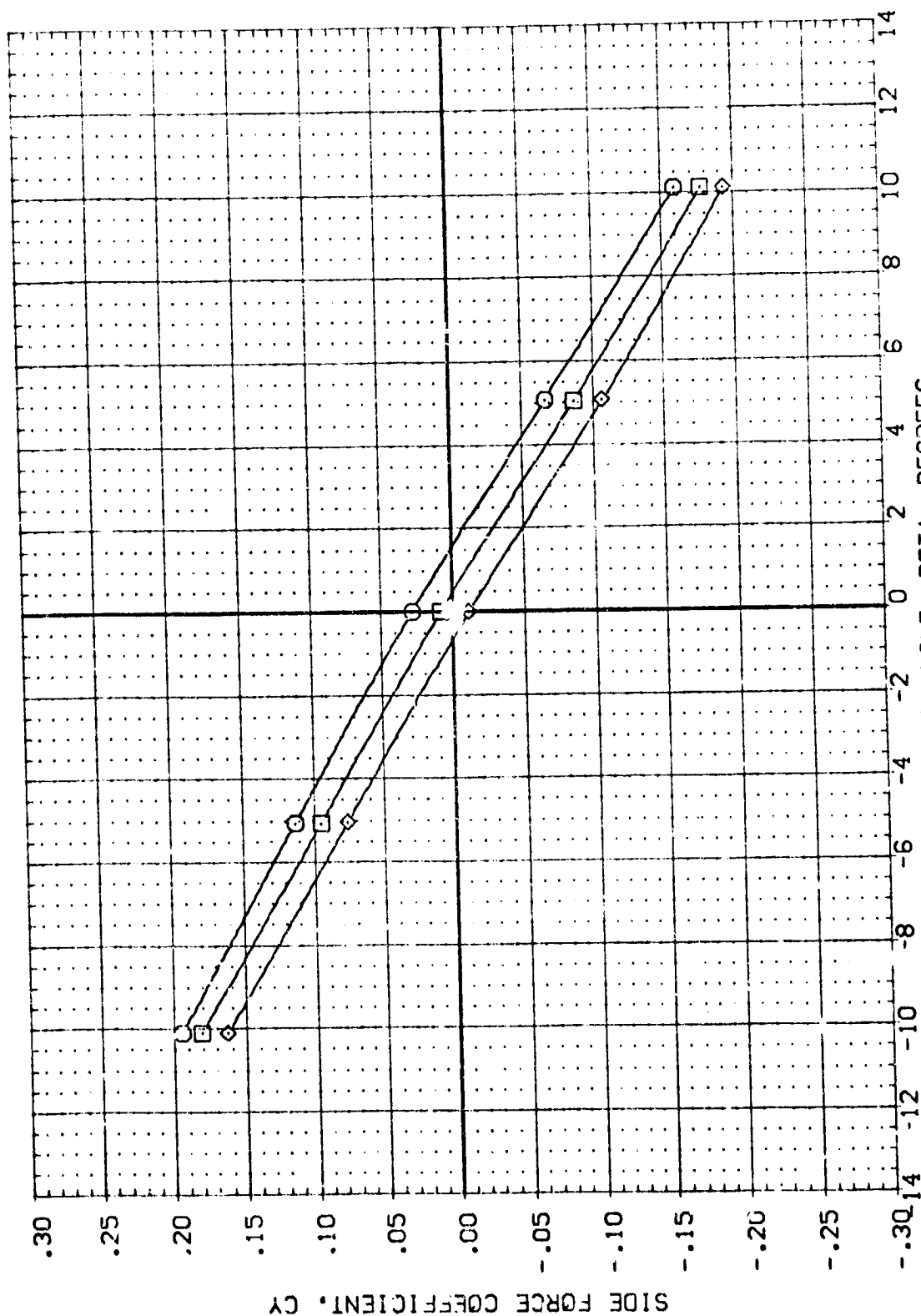


FIGURE 58 RUDDER EFFECTIVENESS WITH SPDBRK = 0 AND ALPHA = 20

(A)MACH = .26

(MDPO14)

CA21 B17C7 M4F5 W107E23V7R5X9

SYMBOL	MAXR D	MACH	PARAMETRIC VALUES
○	-7.500	-18.000	BETA .000
□	-15.000	.000	ELEVON .000
		.000	VTLINE -7.500
		.000	DEL RLO
			STDBRK

REFERENCE INFORMATION

SREF	4.4119	SC.FT
LREF	19.2299	INCHES
BREF	37.9359	INCHES
YMRP	43.5974	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

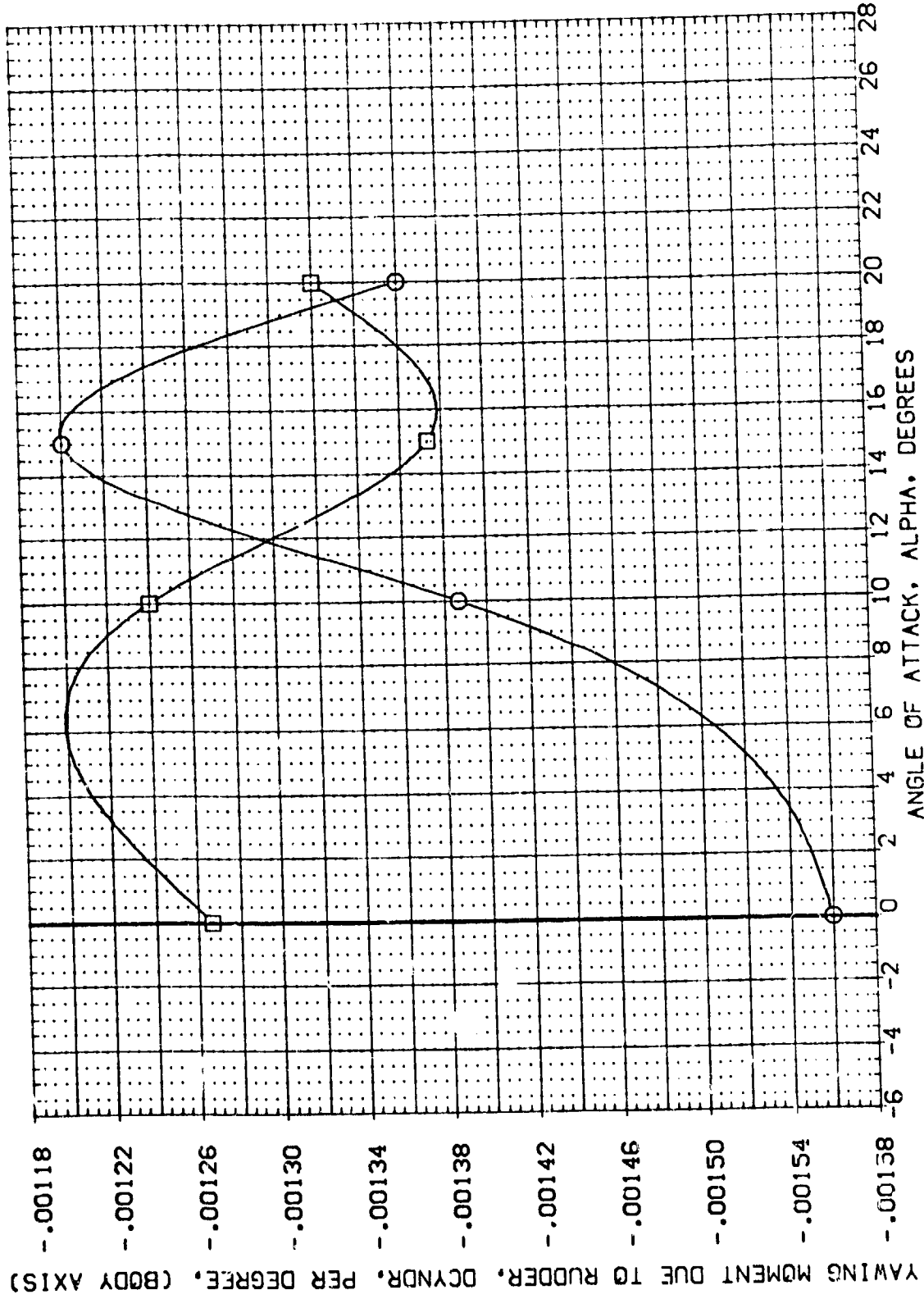


FIGURE 59 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPOBRK=0

(MDP014)

W107E23V7R6X9

M4F5

B17C7

GA21

REFERENCE INFORMATION  
 SREF 4.4119  
 LREF 19.2299  
 BREF 37.5355  
 XMRP 43.5574  
 YMRP .0000  
 ZMRP 16.2000  
 SCALE .0405

PARAMETRIC VALUES  
 BETA .000  
 ELEVON .000  
 VTLINE -7.500  
 DELKID .000

MAJOR  
 MACH .260  
 BOFLAP -18.000  
 AIRRON .000  
 SPDBRK .000

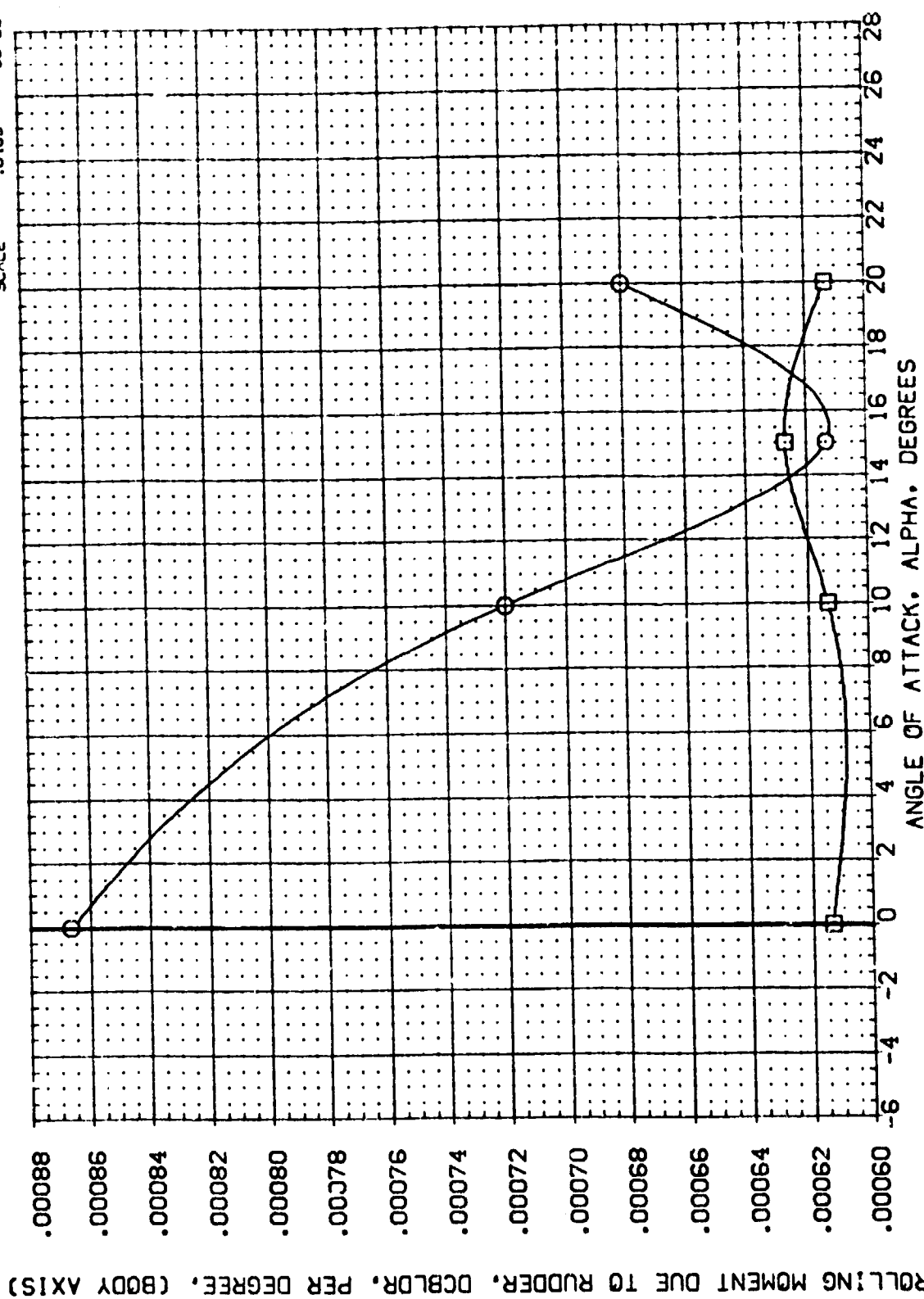


FIGURE 59 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK= 0

(MDP014)

W107E23V7R6X9

M4F5

B17C7

0A21

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405 SCALE

PARAMETRIC VALUES  
MAXRUD -7.500 MACH .000  
BOFLAP -15.000 BOFLAP .000  
AILRON .000 AILRON .000  
SPDBRK -7.500 SPDBRK .000

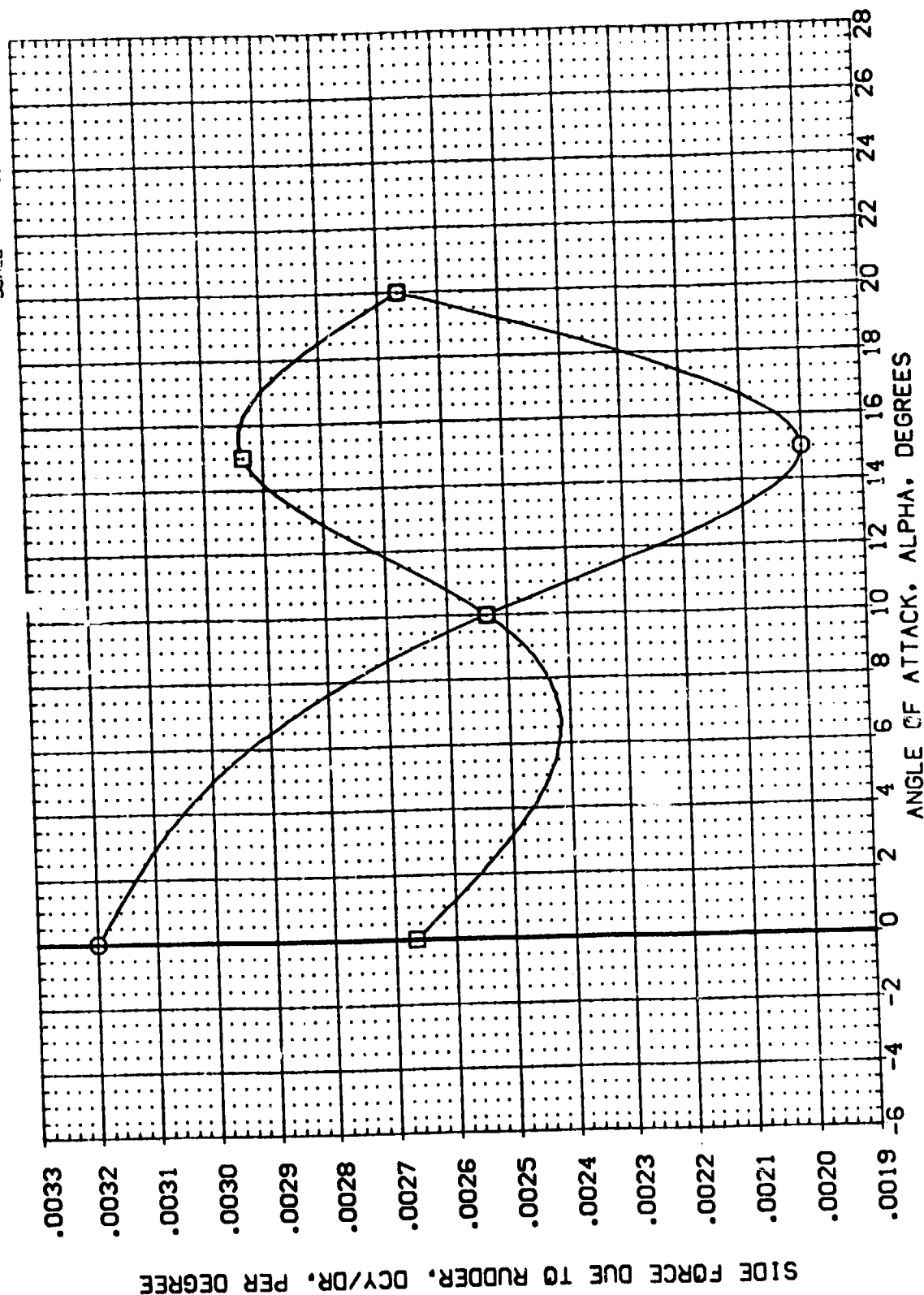


FIGURE 59 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK= 0

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(R0P023)    OA21    B17C7    MAF5    V107E23V7R6X9

(R0P027)    OA21    B17C7    MAF5    V107E23V7R6X9

(R0P031)    OA21    B17C7    MAF5    V107E23V7R6X9

ALPHA    AILRON    RUDDER    SPDBRK

.000    .000    .000    25.000

.000    .000    -7.500    25.000

.000    .000    -15.000    25.000

REFERENCE INFORMATION

SREF    4.4119    SQ.FT.

LREF    19.2289    INCHES

BREF    37.9359    INCHES

APRP    43.5974    INCHES

YMRP    .0000    INCHES

ZMRP    16.2030    INCHES

SCALE    .0405

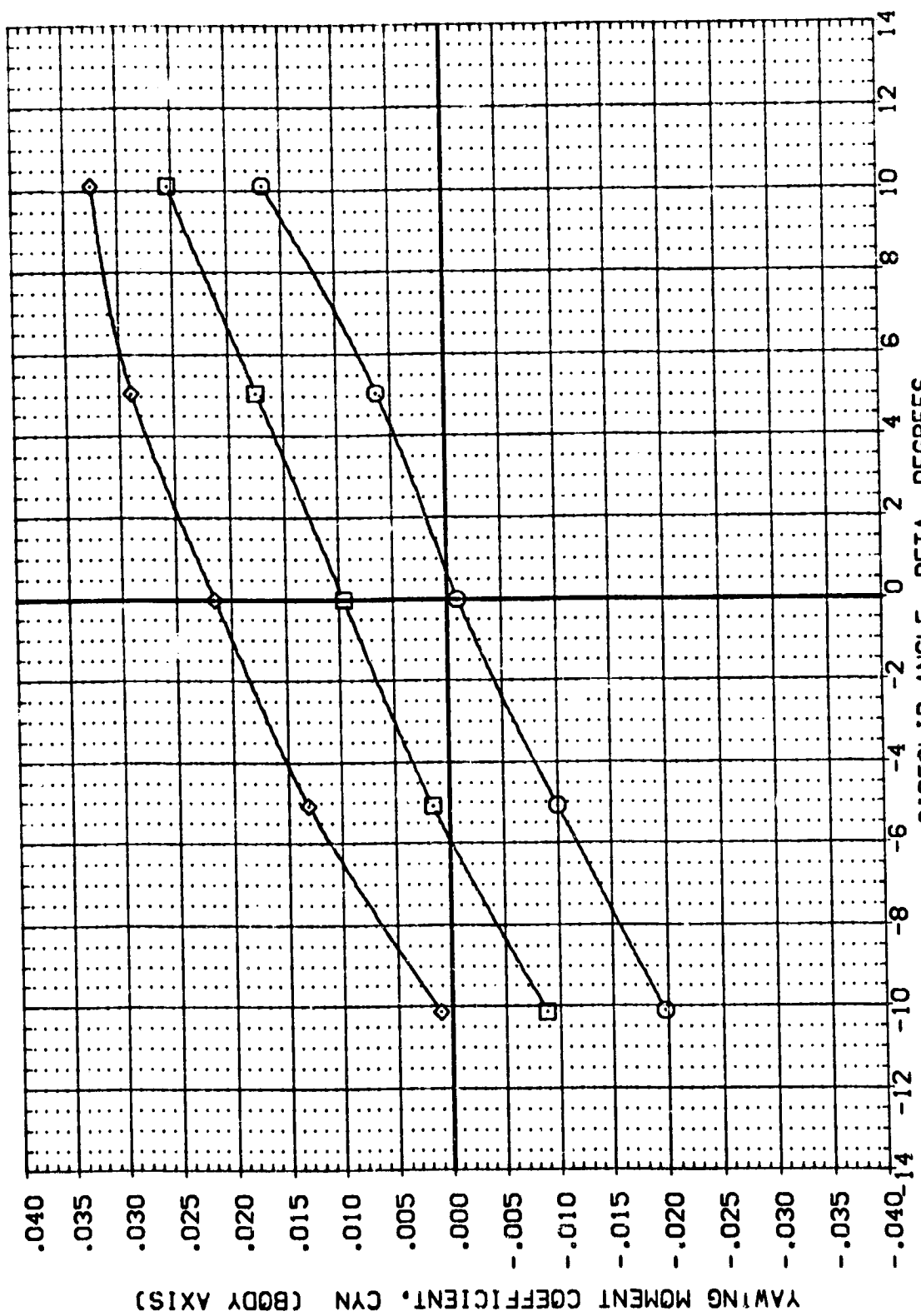


FIGURE 60 RUDDER EFFECTIVENESS WITH SPDBRK = 25 AND ALPHA = 0

[A]MACH = .26

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION
{ ROP023 }	0A21 B17C7	M4F5 V107E23V7R6X9
{ ROP027 }	0A21 B17C7	M4F5 V107E23V7R6X9
{ ROP031 }	0A21 B17C7	M4F5 V107E23V7R6X9

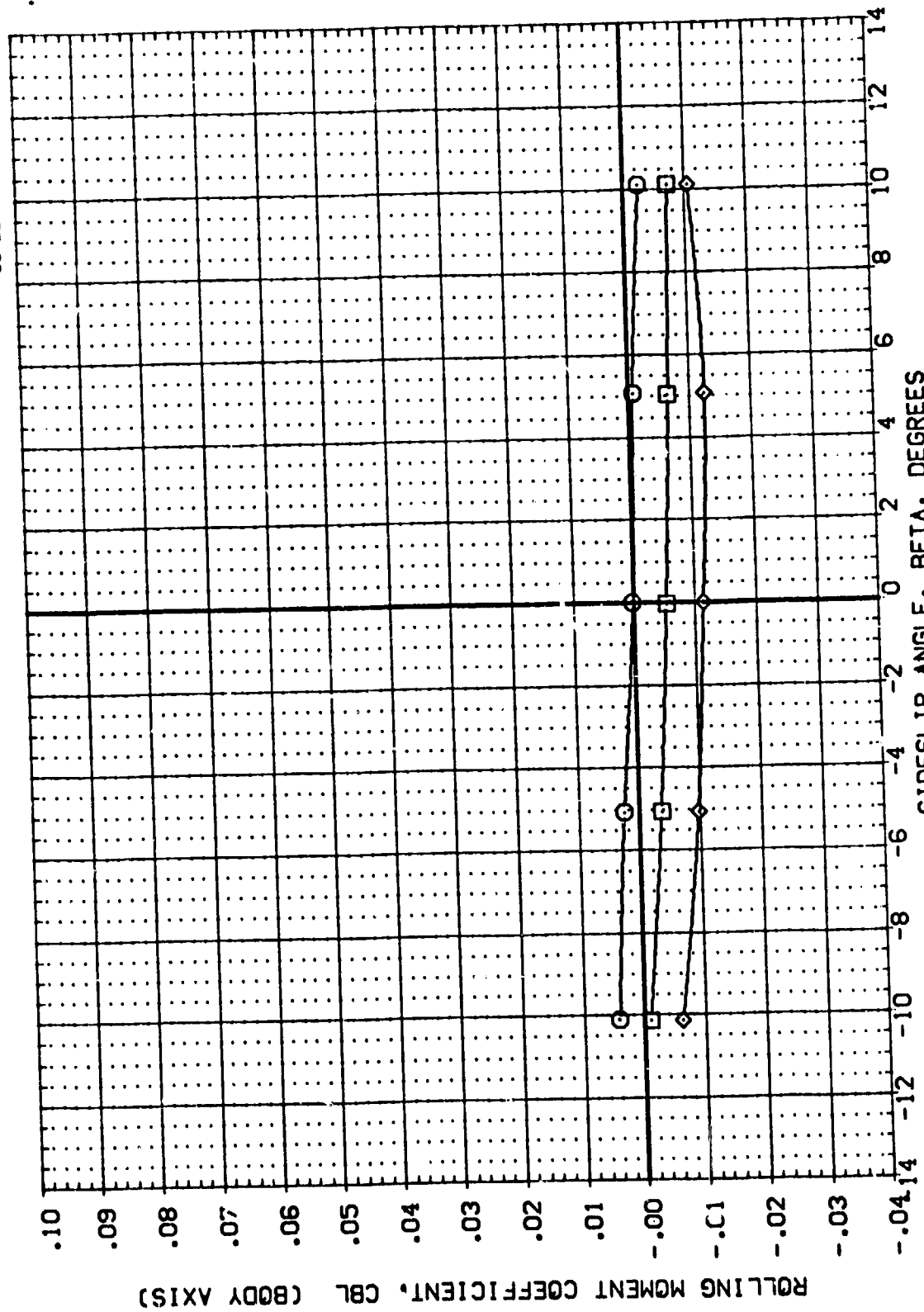


FIGURE 60 RUDDER EFFECTIVENESS WITH SPOBRK = 25 AND ALPHA = 30

$[A]_{MACH} = .26$



DATA SET SYMBOL    CONFIGURATION DESCRIPTION    REFERENCE INFORMATION

Q021    B17C7    MAFS    V107E23V7R6X9    SREF    4.4119    50.17    INCHES

Q021    B17C7    MAFS    V107E23V7R6X9    LREF    19.2289    19.23    INCHES

Q021    B17C7    MAFS    V107E23V7R6X9    BREF    37.9359    37.94    INCHES

Q021    B17C7    MAFS    V107E23V7R6X9    YMRP    43.5974    43.60    INCHES

Q021    B17C7    MAFS    V107E23V7R6X9    ZMRP    16.2000    16.20    INCHES

Q021    B17C7    MAFS    V107E23V7R6X9    SCALE    .0405    .0405    INCHES

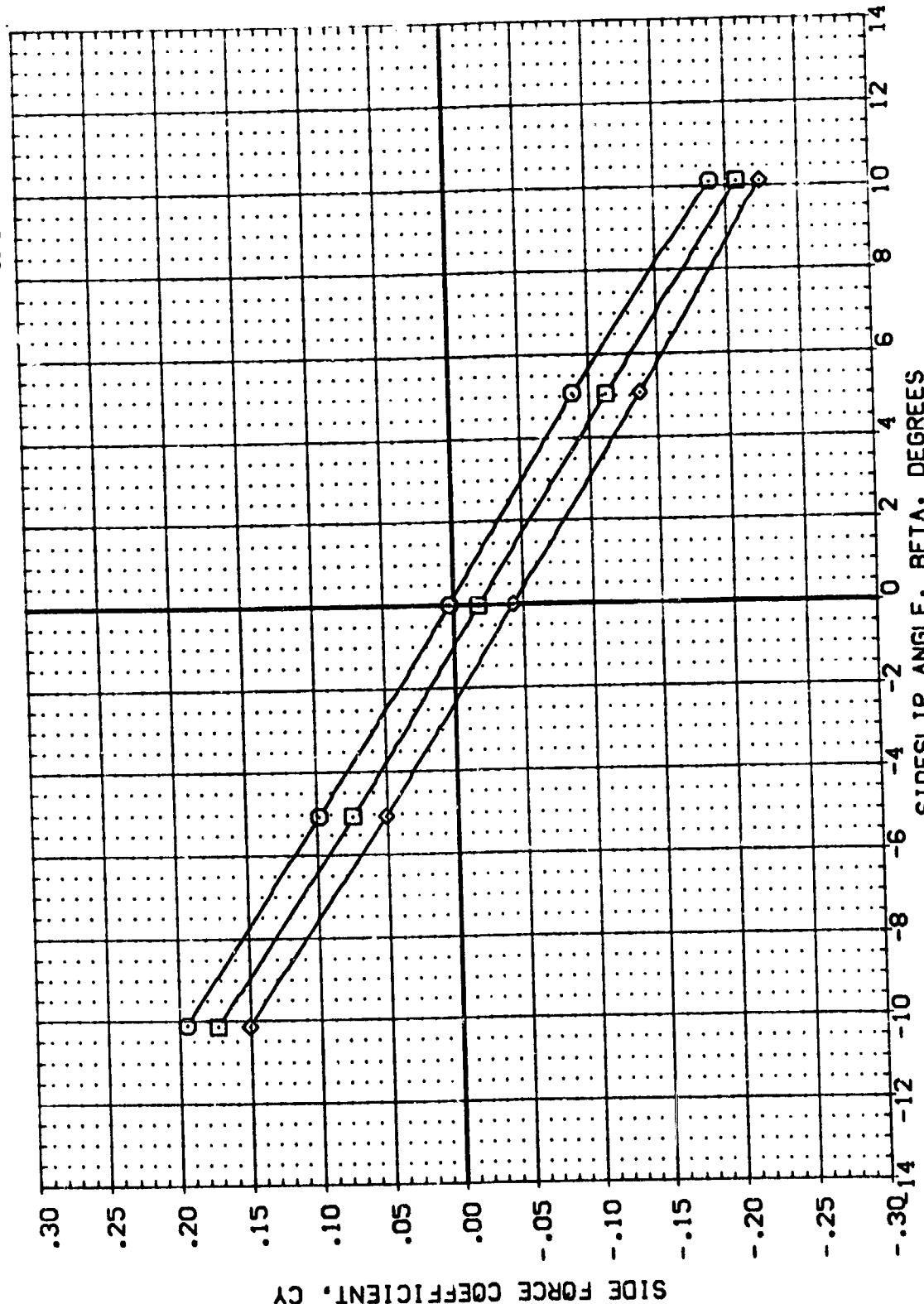


FIGURE 60 RUDDER EFFECTIVENESS WITH SPOBRK = 25 AND ALPHA = 0

(A)MACH = .26

DATA SET SYMBOL: (RDP024) (RDP028) (RDP032)

CONFIGURATION DESCRIPTION: DA21 817C7 M4F5 V107E23V7R6X9 DA21 817C7 M4F5 V107E23V7R6X9 DA21 817C7 M4F5 V107E23V7R6X9

REFERENCE INFORMATION: SREF 4.4119 SO.FT. IN.-ES LREF 19.2299 IN.-ES BREF 37.9359 IN.-ES XMRP 43.5974 IN.-ES YMRP 0.000 IN.-ES ZMRP 16.2000 IN.-ES SCALE .0405

ALPHA: 10.000 10.000 10.000

AIRLON: .000 .000 .000

RUDDER: .000 -7.500 -15.000

SPDBRK: 25.000 25.000 25.000

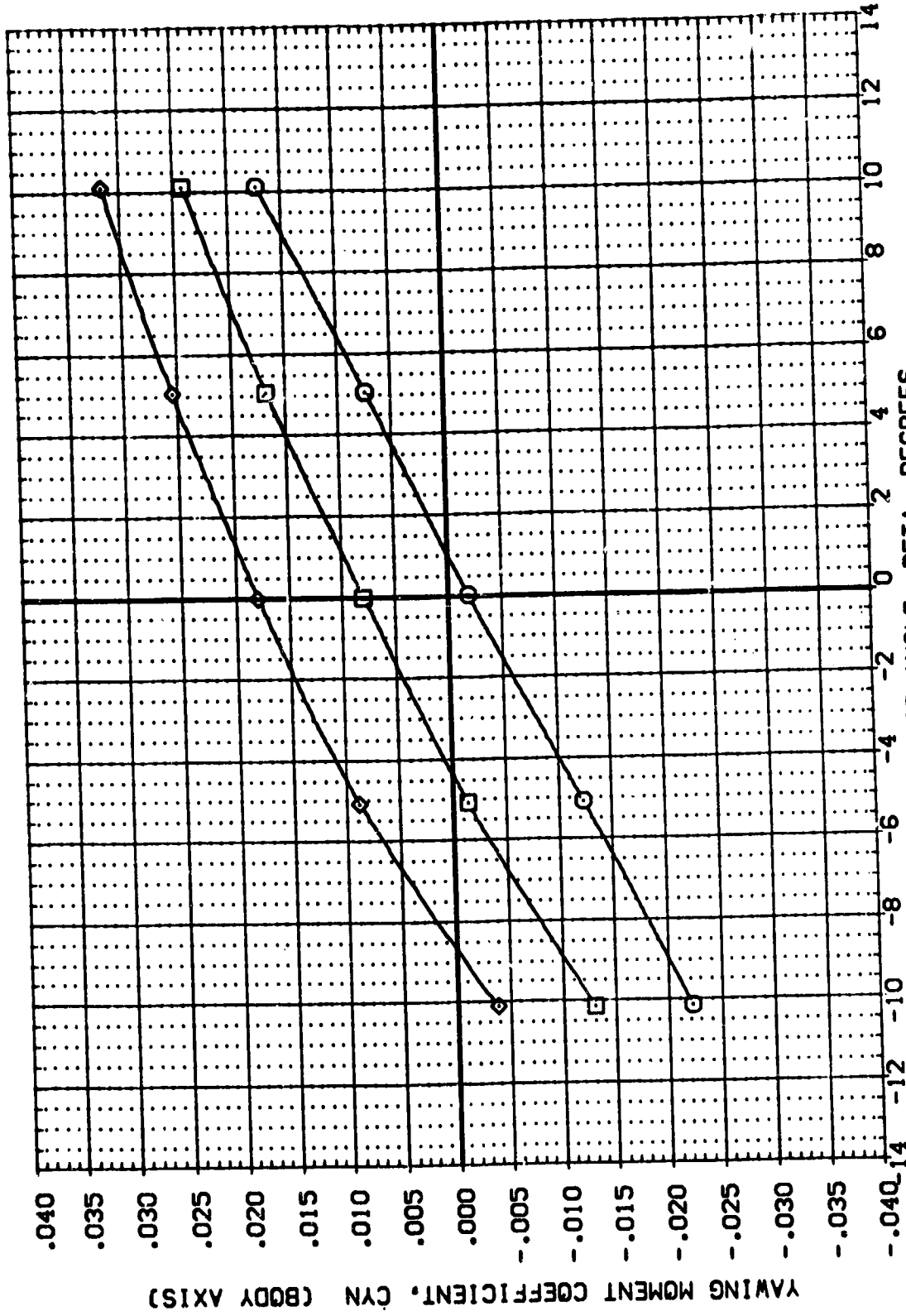


FIGURE 61 RUDDER EFFECTIVENESS WITH SPDBRK = 25 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION    ALPHA    AILERON    RUDDER    SPDBRK    REFERENCE INFORMATION

(R0024)	0A21 B17C7 M4FS V107E23V7R6XS	10.000	.000	.000	25.000	SREF 4.4116 SQ.FT.
(R0028)	0A21 B17C7 M4FS V107E23V7R6XS	10.000	.000	-7.500	25.000	LREF 19.2259 INCHES
(R0032)	0A21 B17C7 M4FS V107E23V7R6XS	10.000	.000	-15.000	25.000	BREF 37.9359 INCHES
						YREF 43.5974 INCHES
						ZREF .0000 INCHES
						SCALE 16.2000 INCHES

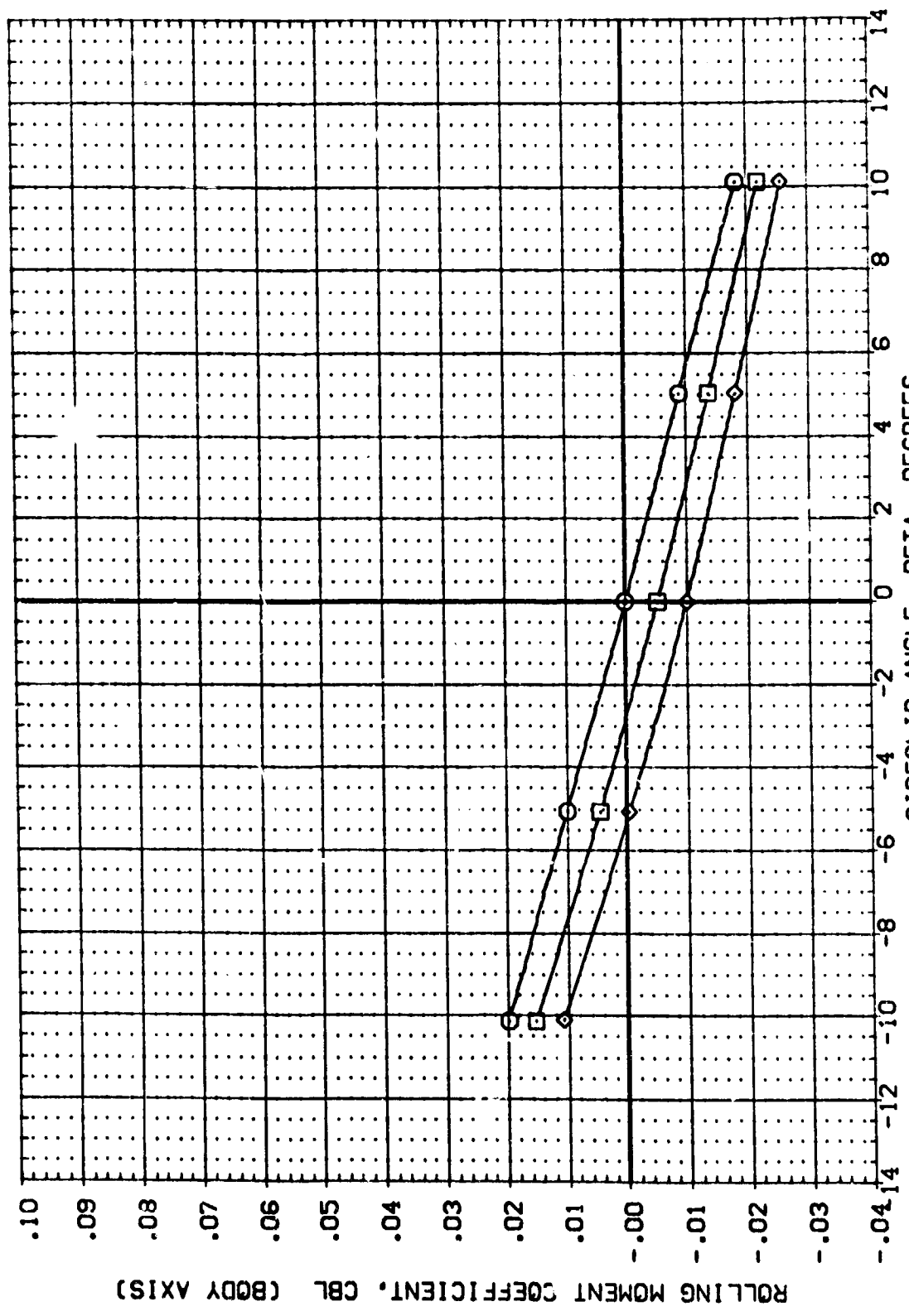


FIGURE 61 RUDDER EFFECTIVENESS WITH SPDBRK = 25 AND ALPHA = 10

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLIN	RUDDER	SPDRK	REFERENCE INFORMATION
(RDP024)	QAZ1 817C7 MAFS V107E23V7R6X3	10.000	.000	.000	25.000	SREF 4.4119 SO.FT.
(RDP028)	QAZ1 817C7 MAFS V107E23V7R6X3	10.000	.000	-7.500	25.000	LREF 19.2299 INCHES
(RDP032)	QAZ1 817C7 MAFS V107E23V7R6X3	10.000	.000	-15.000	25.000	BREF 37.9359 INCHES
						YREF 43.5874 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

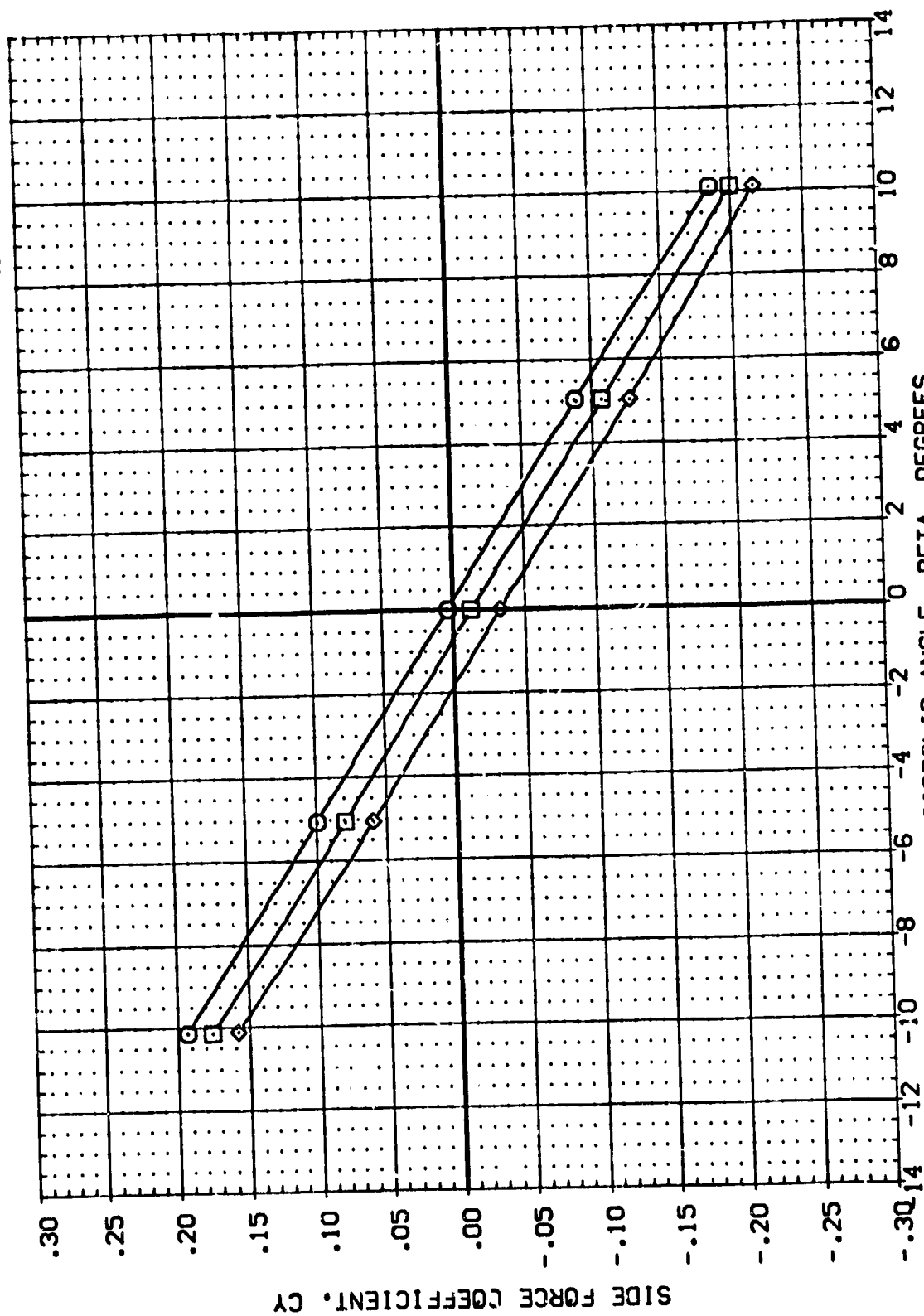


FIGURE 61 RUDDER EFFECTIVENESS WITH SPDRK = 25 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	REFERENCE INFORMATION
(ROP025)	0A21 B17C7 MAF5 V107E23V7R6X9	SREF 4.4119 SQ.FT.
(ROP029)	0A21 B17C7 MAF5 V107E23V7R6X9	LREF 19.2299 INCHES
(ROP033)	0A21 B17C7 MAF5 V107E23V7R6X9	BREF 37.9359 INCHES
		XMRP 43.5874 INCHES
		YMRP .0000 INCHES
		ZMRP 16.2000 INCHES
		SCALE .0405

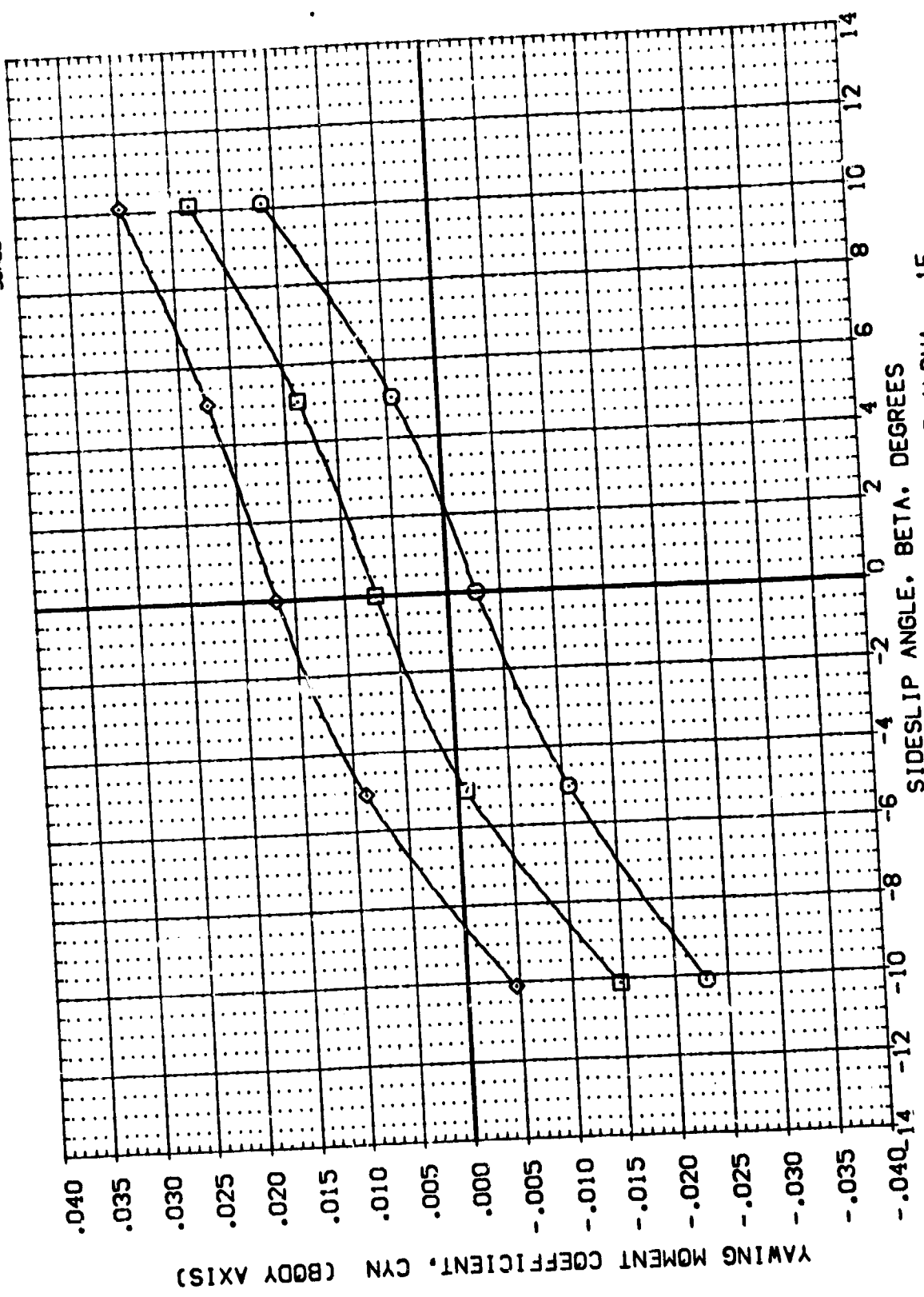


FIGURE 62 RUDDER EFFECTIVENESS WITH SPDBRK = 25 AND ALPHA = 15  
 (A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION	
(ROP025)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	.000	25.000	SREF	4.4119 SC.FT.
(ROP029)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	-7.500	25.000	LREF	19.2289 INCHES
(ROP033)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	-15.000	25.000	BREF	37.9359 INCHES
						XPRP	43.5974 INCHES
						YPRP	.0000 INCHES
						ZPRP	16.2000 INCHES
						SCALE	.0405

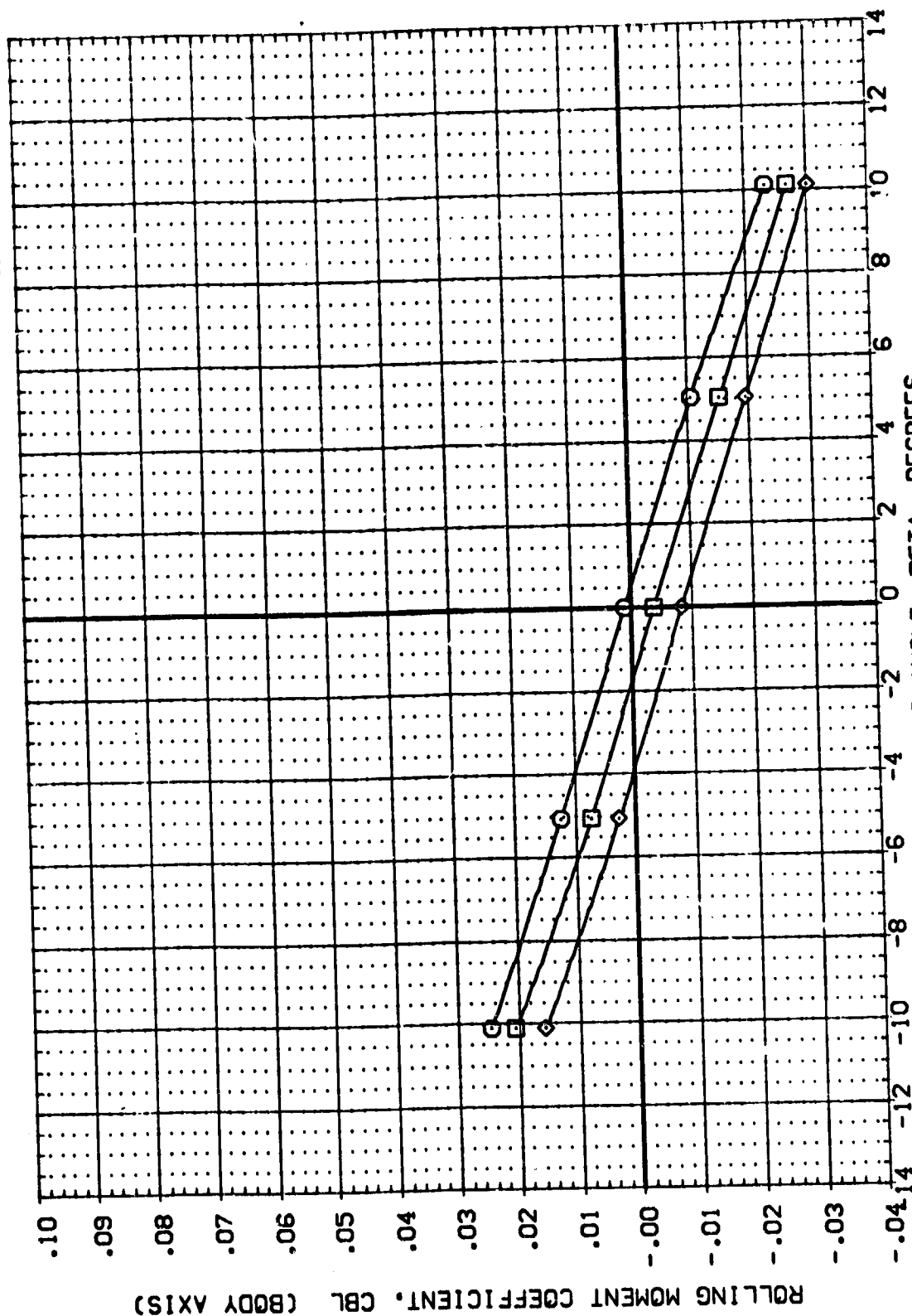


FIGURE 62 RUDDER EFFECTIVENESS WITH SPDBRK = 25 AND ALPHA = 15

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	RUDDER	SPOBRK	REFERENCE INFORMATION
(RPO025)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	.000	25.000	SREF 4.4119 50.000
(RPO029)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	-7.500	25.000	LREF 19.2299 100.000
(RPO033)	0A21 B17C7 M4FS V107E23V7R6X9	15.000	.000	-15.000	25.000	BREF 37.5359 100.000
						YREF 43.5974 100.000
						ZREF 16.2000 100.000
						SCALE .0405 100.000

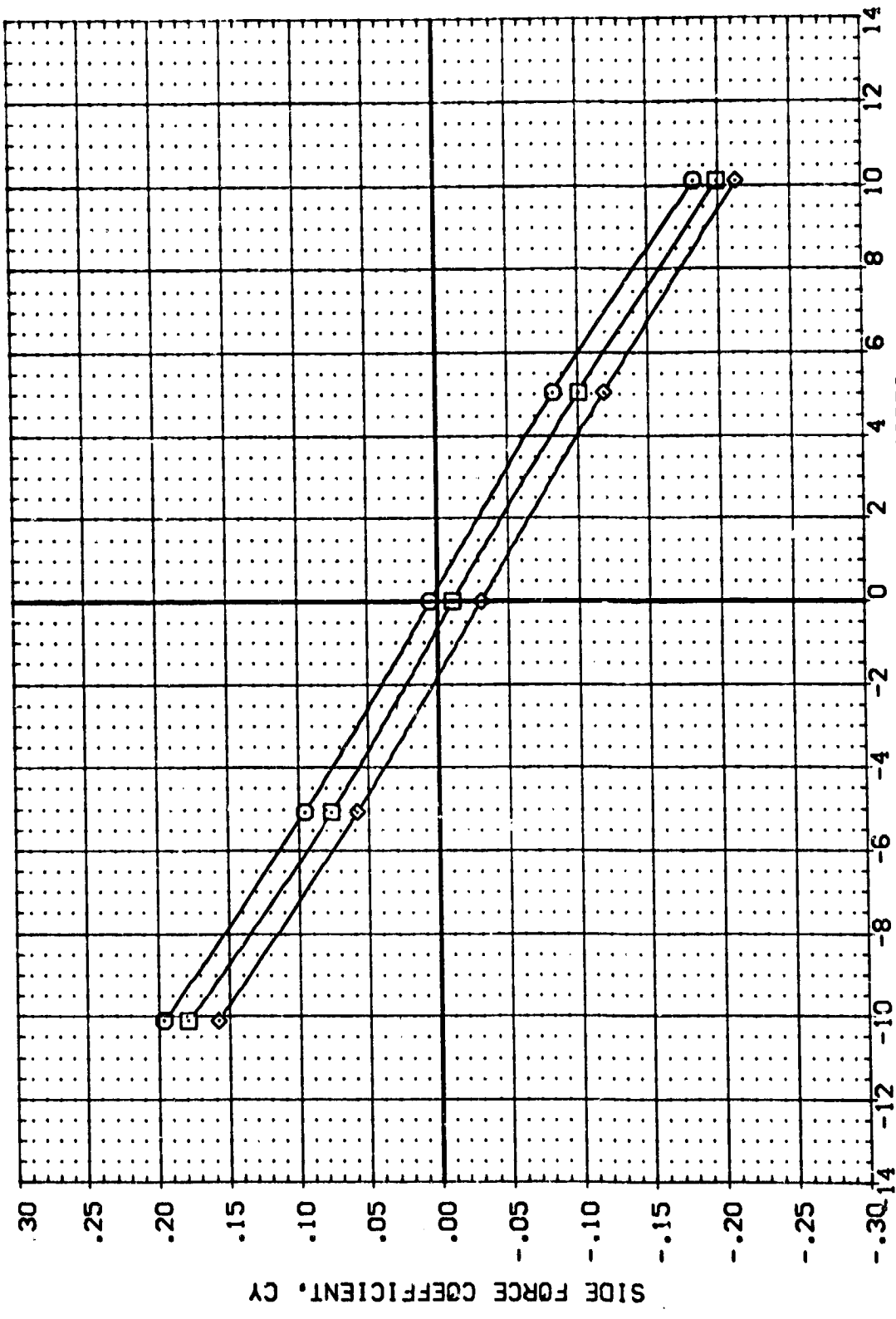


FIGURE 62 RUDDER EFFECTIVENESS WITH SPOBRK = 25 AND ALPHA = 15

(A)MACH = .26





DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(RPO26)	DA21	B17C7	M4F5	V107E23V/TRSX3	SREF 4.1119 SQ.FT.
(RPO30)	DA21	B17C7	M4F5	V107E23V/TRSX3	LREF 19.2299 INCHES
(RPO34)	DA21	B17C7	M4F5	V107E23V/TRSX3	BREF 37.9359 INCHES
					XREF 43.5974 INCHES
					YREF 10000 INCHES
					ZREF 16.2000 INCHES
					SCALE .0405

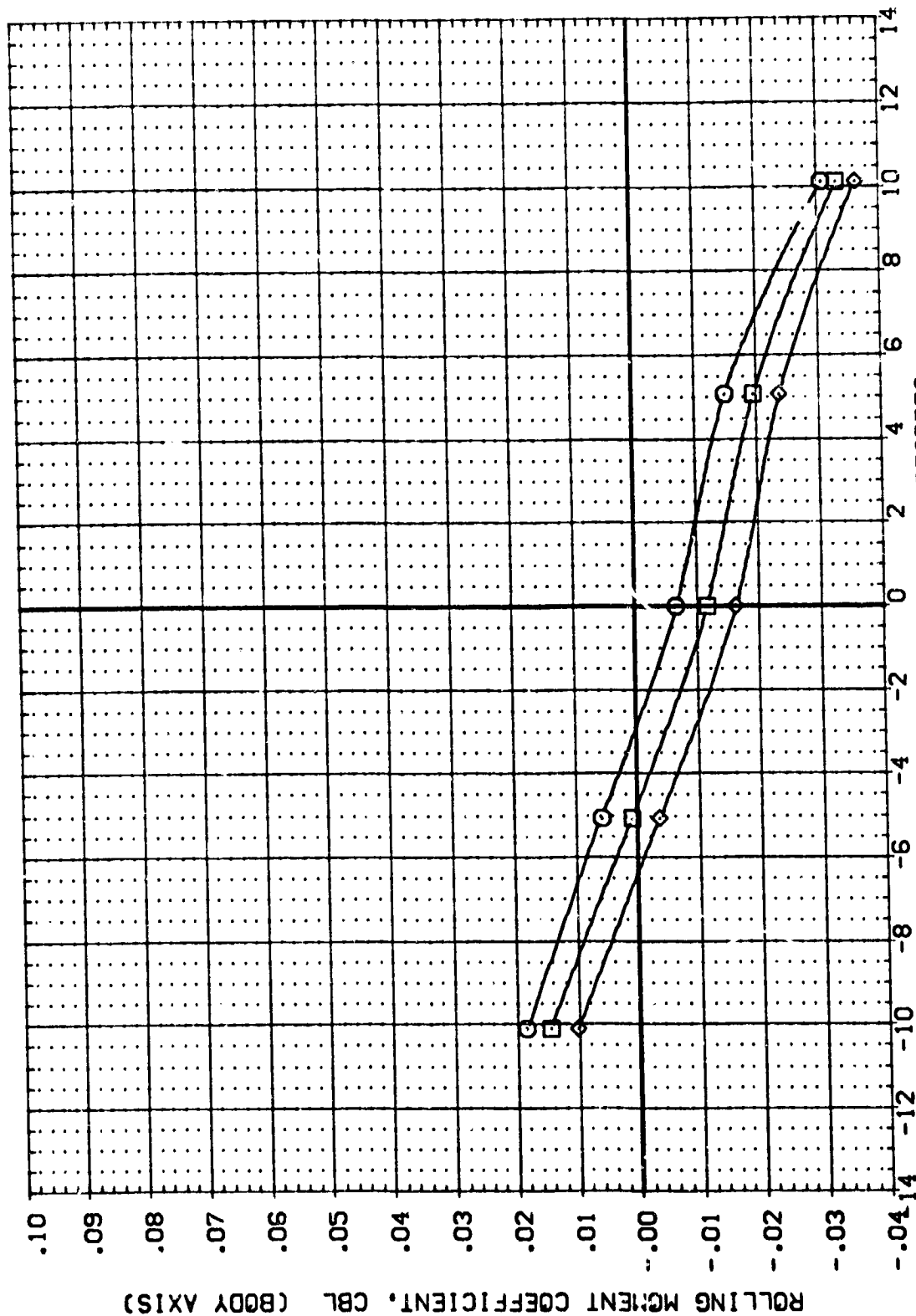
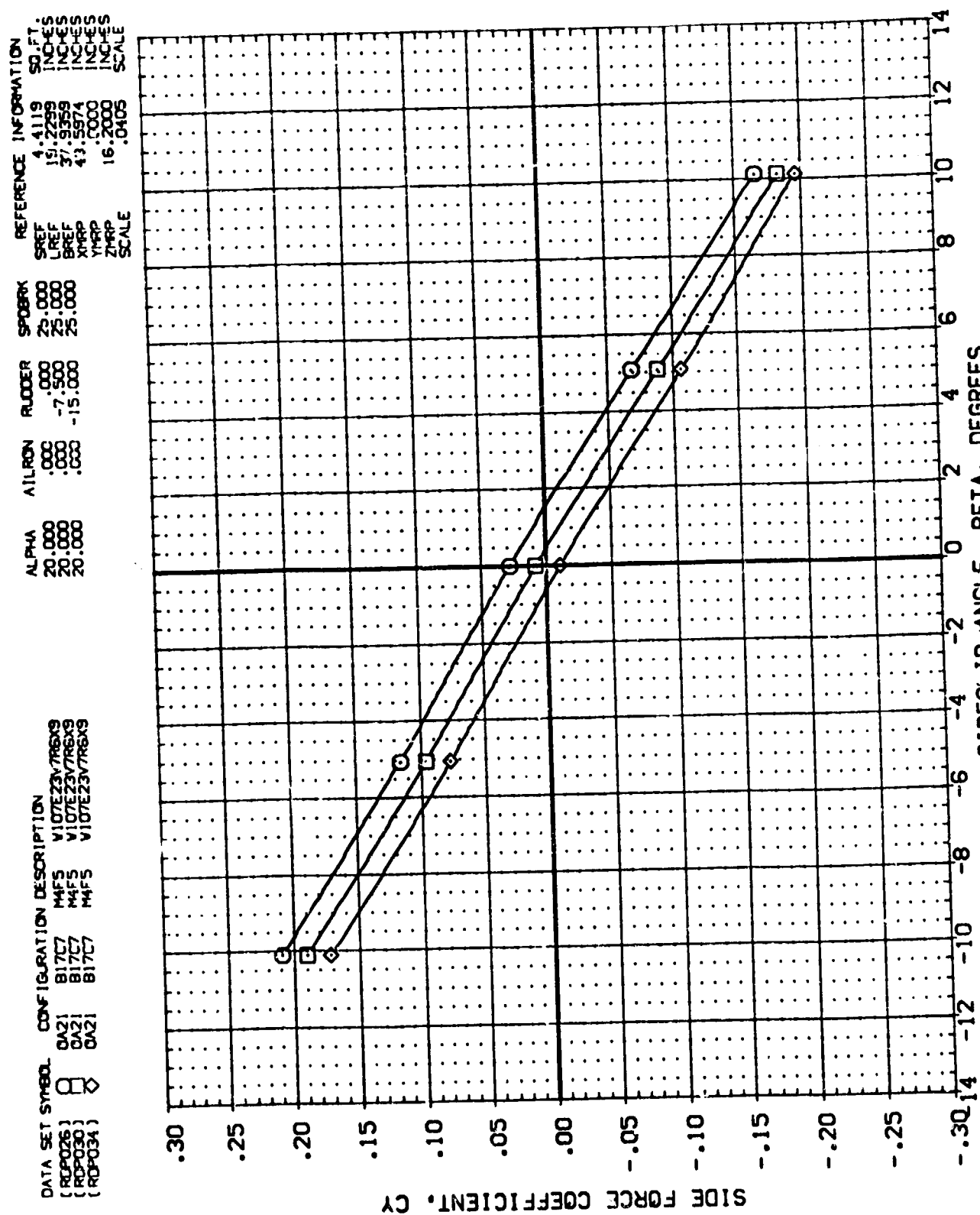


FIGURE 63 RUDDER EFFECTIVENESS WITH SPDRK = 25 AND ALPHA = 20

(A)MACH = .26

FIGURE 63 RUDDER EFFECTIVENESS WITH  $S^*DBRK = 25$  AND  $\alpha = 20^\circ$ 
$$[A]_{MACH} = .26$$

(MDP027)

W107E23V7R6X9

M4F5

B17C7

0A21

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5874 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

PARAMETRIC VALUES  
MACH .260 BETA .000  
BUFLAP -18.000 ELEVON .000  
AILRON .000 VTLINC .000  
SPDBRK 25.000 DELRJD -7.500

SYMBOL MAXRJD  
O -7.500  
□ -15.000

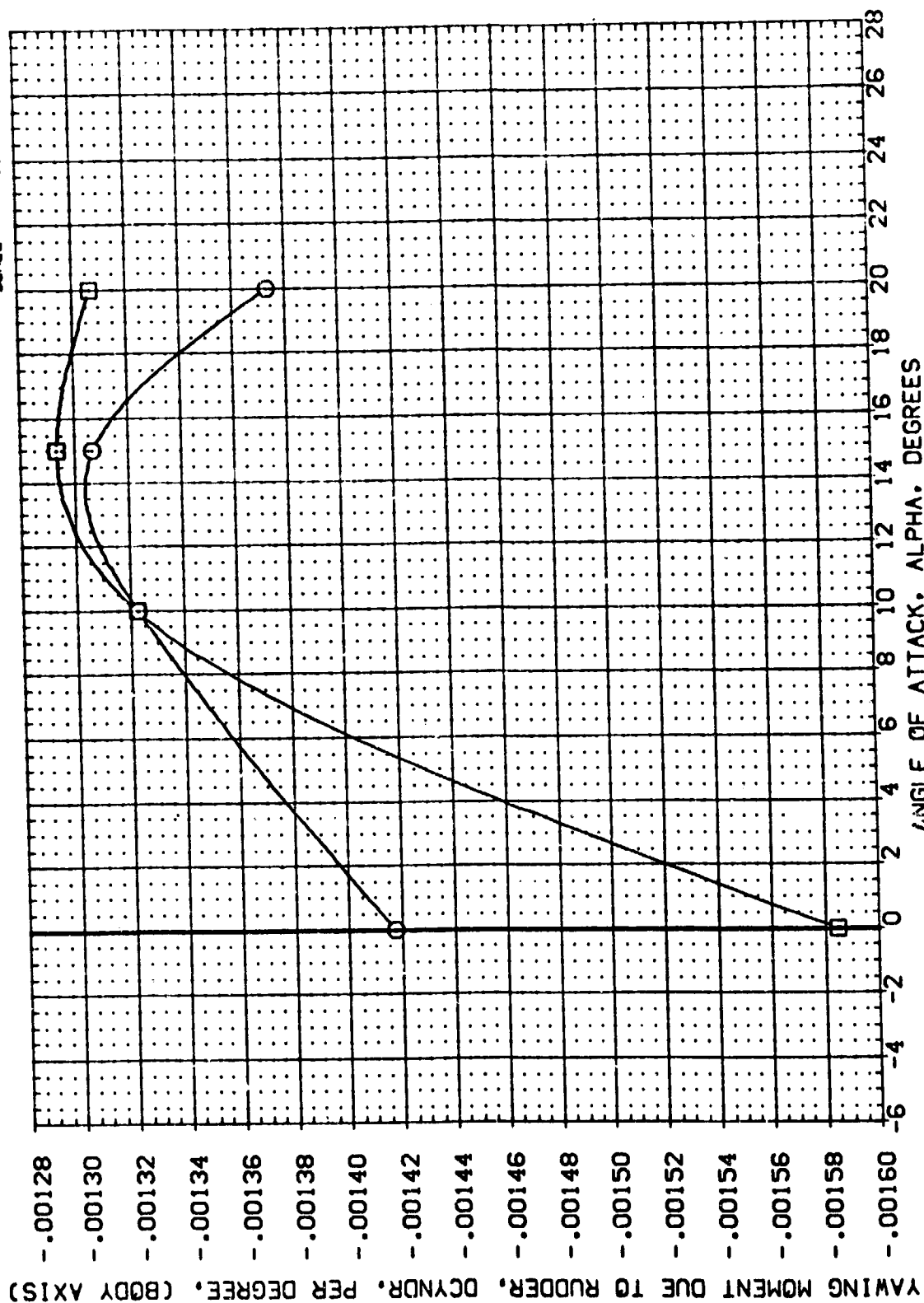


FIGURE 64 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK = 25

(MDP027)

0A21 B17C7 14F5 W107E23V7R6X9

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

PARAMETRIC VALUES  
 BETA .000  
 ELEVON .000  
 VTLLNC .000  
 DELRLO -7.500

SYMBOL MAXRLO MACH BOFLAP AILRON SPOBRK  
 -7.500  
 -15.000  
 .000  
 25.000

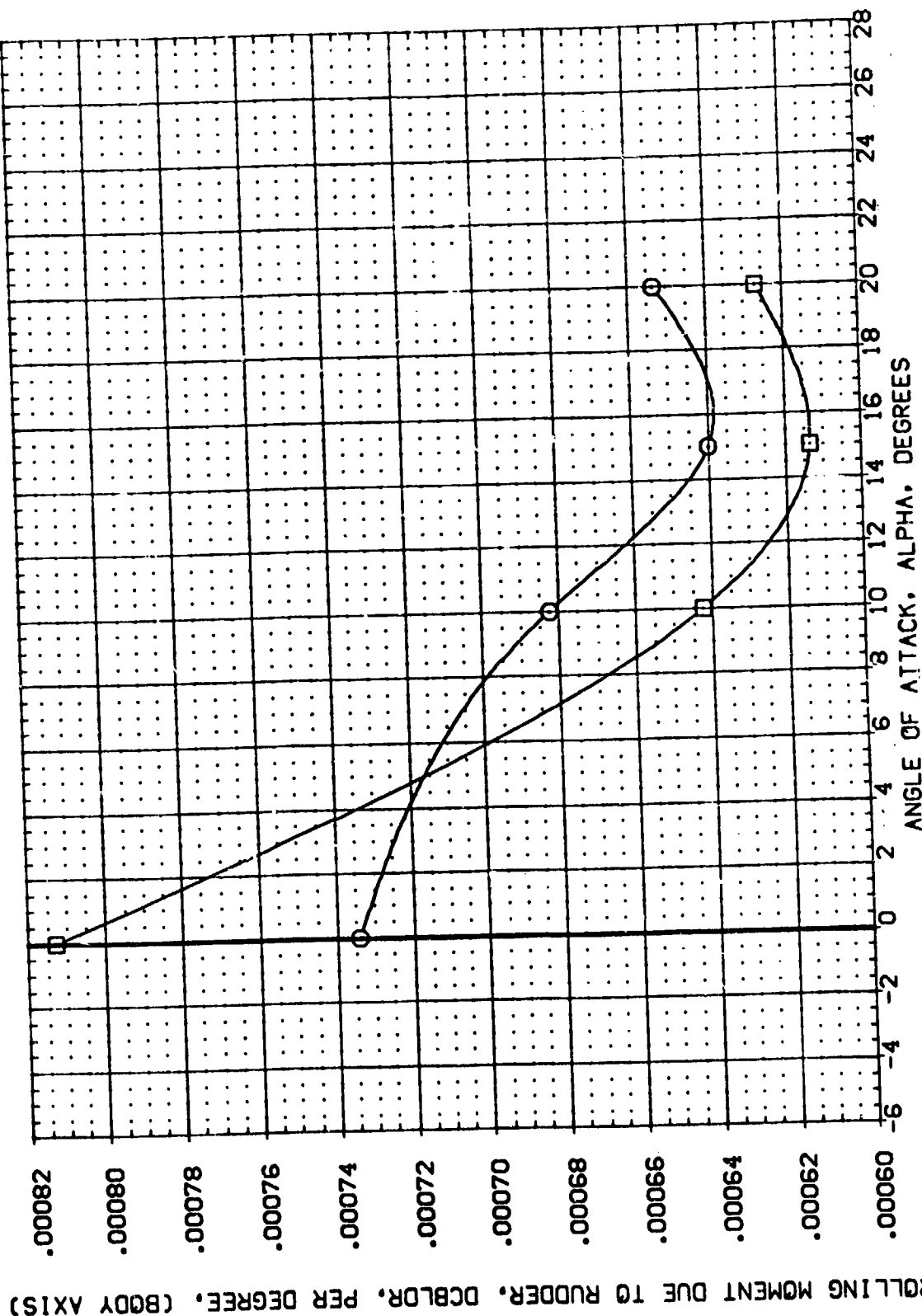


FIGURE 64 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPOBRK = 25  
 PAGE 483

(MDPO27)

0A21 B17C7 M4F5 W107E23V7R6X9

REFERENCE INFORMATION  
SREF 4.4119 SQ.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XPRP 43.5974 INCHES  
YPRP .0000 INCHES  
ZPRP 16.2000 INCHES  
SCALE .0405

PARAMETRIC VALUES

MACH .260 BETA .000  
BOFLAP -18.000 ELEVON .000  
AILRON .000 VTINC .000  
SPDBRK 25.000 DELRJD -7.500

SYMBOL  
○  
□

MAXRJD  
-7.500  
-15.000

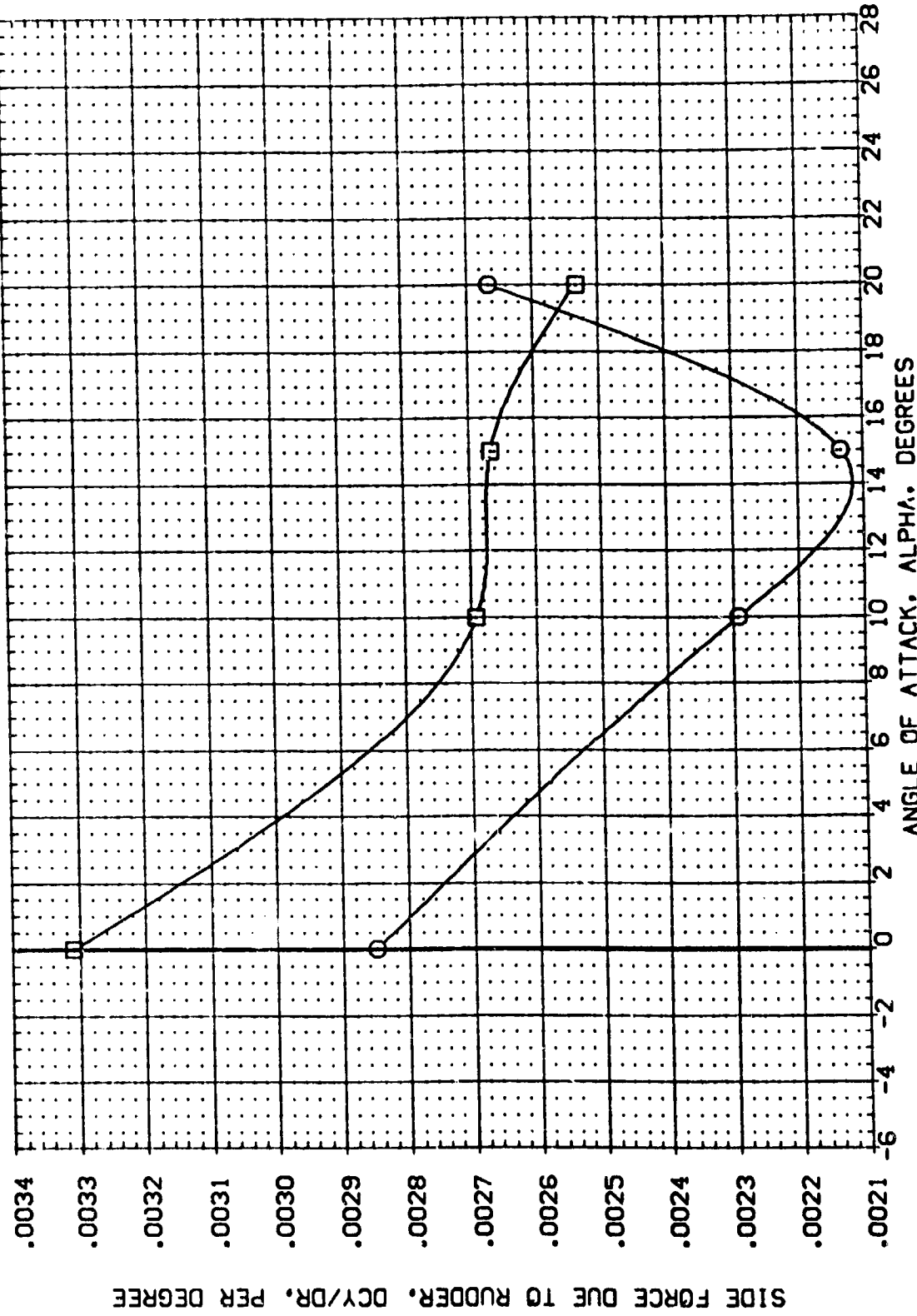


FIGURE 64 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK = 25  
PAGE 484

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(RDP049)	0A21	B17C7	M4F5	V107E23V7RGX9	SO.FT. 4.4119
(RDP053)	0A21	B17C7	M4F5	V107E23V7RGX9	INCHES 19.2299
(RDP057)	0A21	B17C7	M4F5	V107E23V7RGX9	INCHES 37.9359
					INCHES 43.5974
					INCHES 16.2000
					SCALE .0405

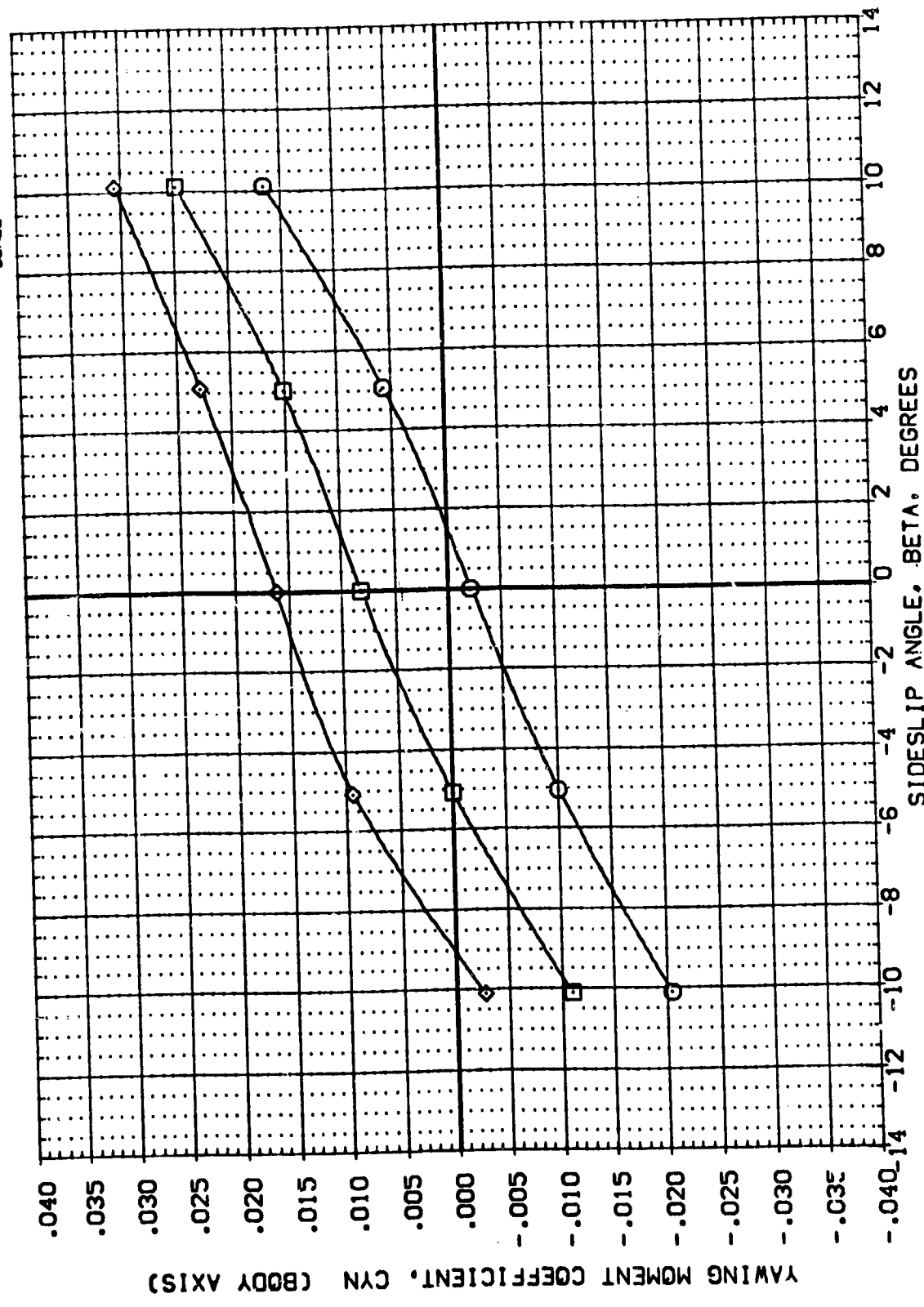


FIGURE 65 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 0

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION
(R0P049)	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	.000	55.000	SREF 4.4119 SQ.FT.
(R0P053)	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-7.500	55.000	LREF 19.2299 INCHES
(R0P057)	0A21 B17C7 M4F5 V107E23V7R6X9	.000	.000	-15.000	55.000	BREF 37.9359 INCHES
						YMRP 43.5974 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2000 INCHES
						SCALE .0405

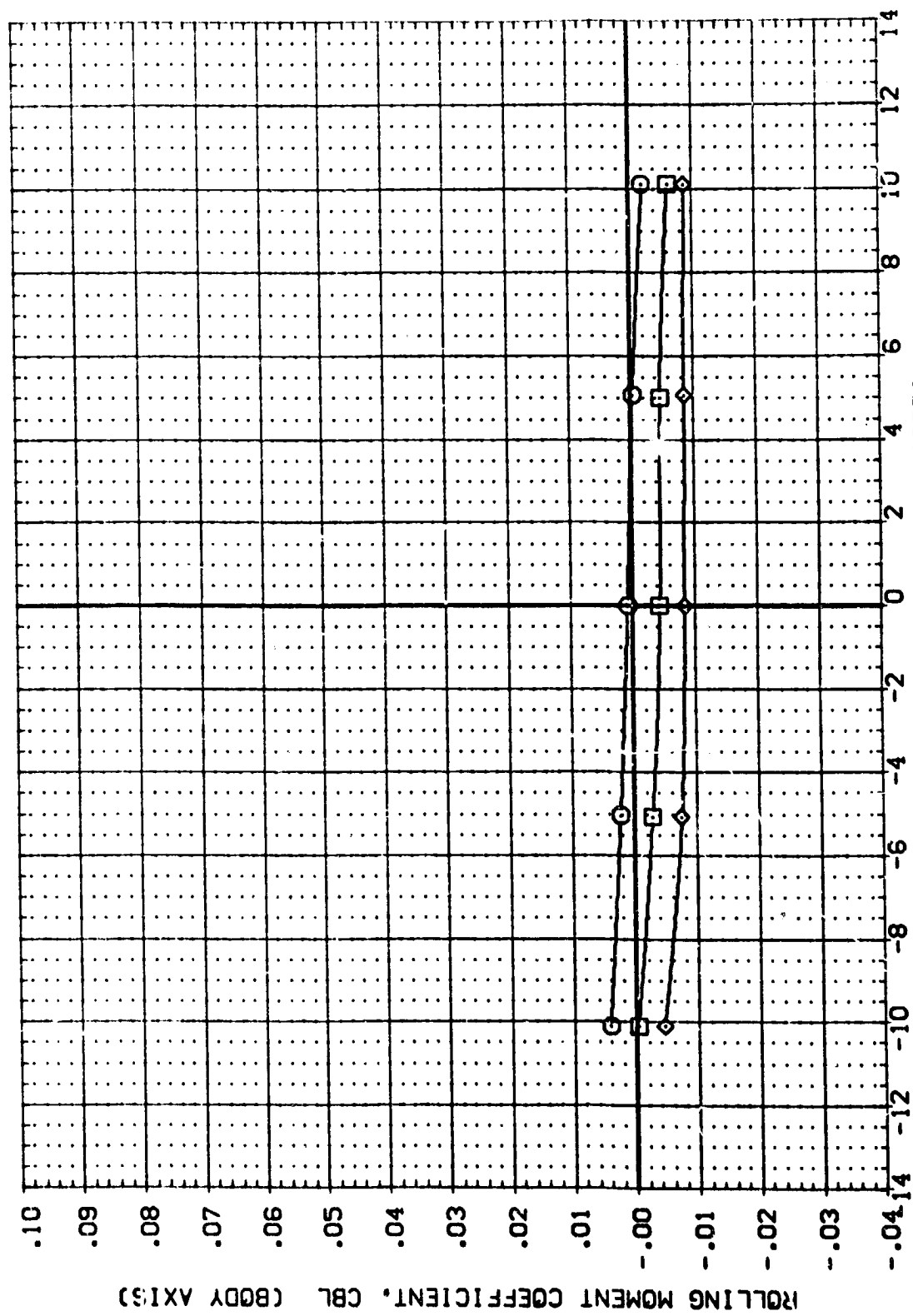


FIGURE 65 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 0  
 (A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		SQ.FT.	
{ RPO4S }	DA21	B17C7	M4FS	V107E23V7R6X9	SREF	4.4119	INCHES
{ RPO53 }	DA21	B17C7	M4FS	V107E23V7R6X9	LREF	19.2298	INCHES
{ RPO57 }	DA21	B17C7	M4FS	V107E23V7R6X9	BREF	37.5359	INCHES
					XMRP	43.5974	INCHES
					YMRP	.0000	INCHES
					ZMRP	16.2000	INCHES
					SCALE	.0405	SCALE

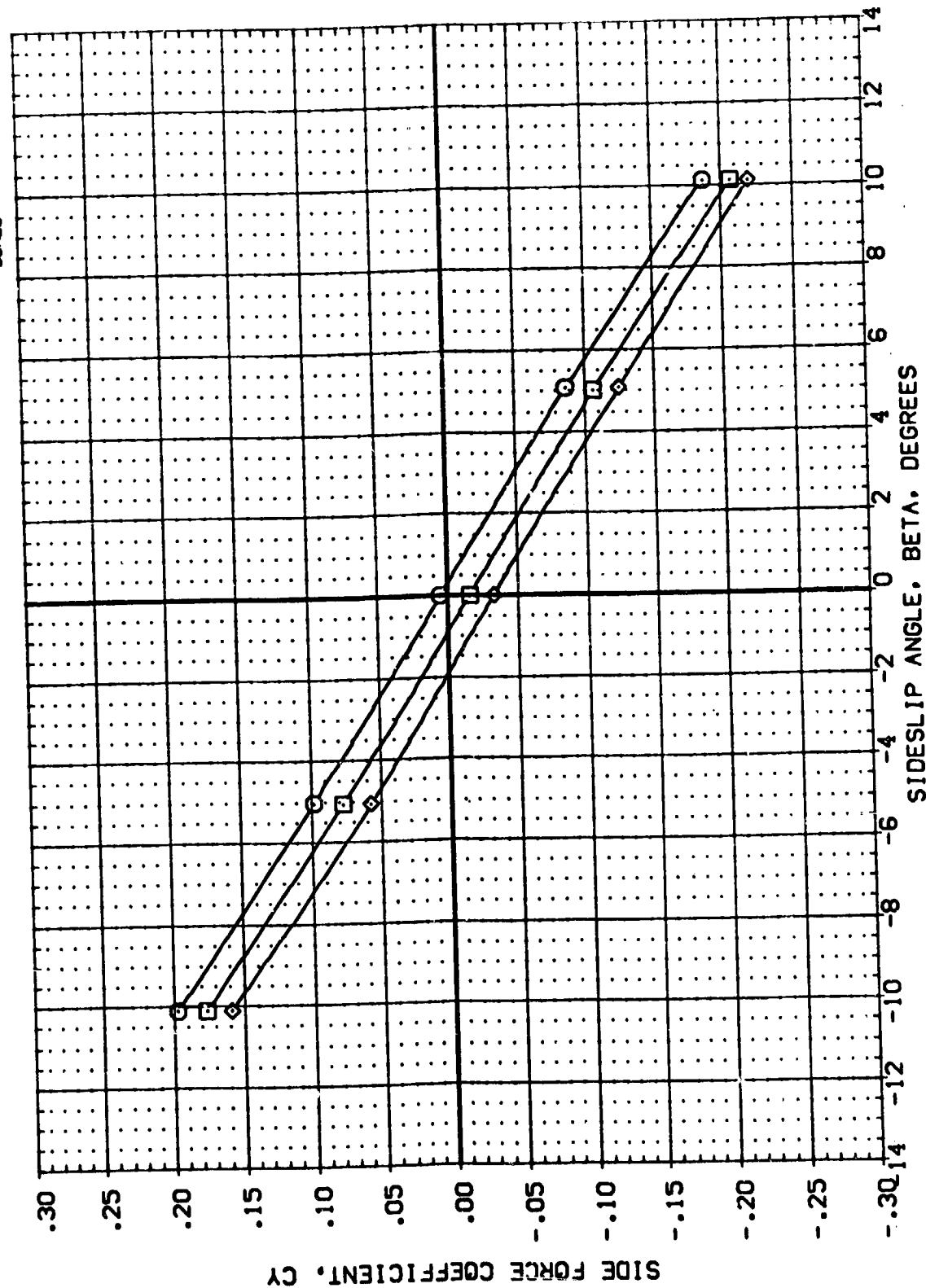


FIGURE 65 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 0

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION	
(R0050)	0A21 B17C7 M4FS V107E23V7R6X9	10.000	.000	.000	55.000	SREF	4.4119
(R0054)	0A21 B17C7 M4FS V107E23V7R6X9	10.000	.000	-7.500	55.000	LREF	19.2259
(R0058)	0A21 B17C7 M4FS V107E23V7R6X9	10.000	.000	-15.000	55.000	BREF	37.9359
						XMRP	43.5974
						YMRP	.0000
						ZMRP	16.2000
						SCALE	.0405

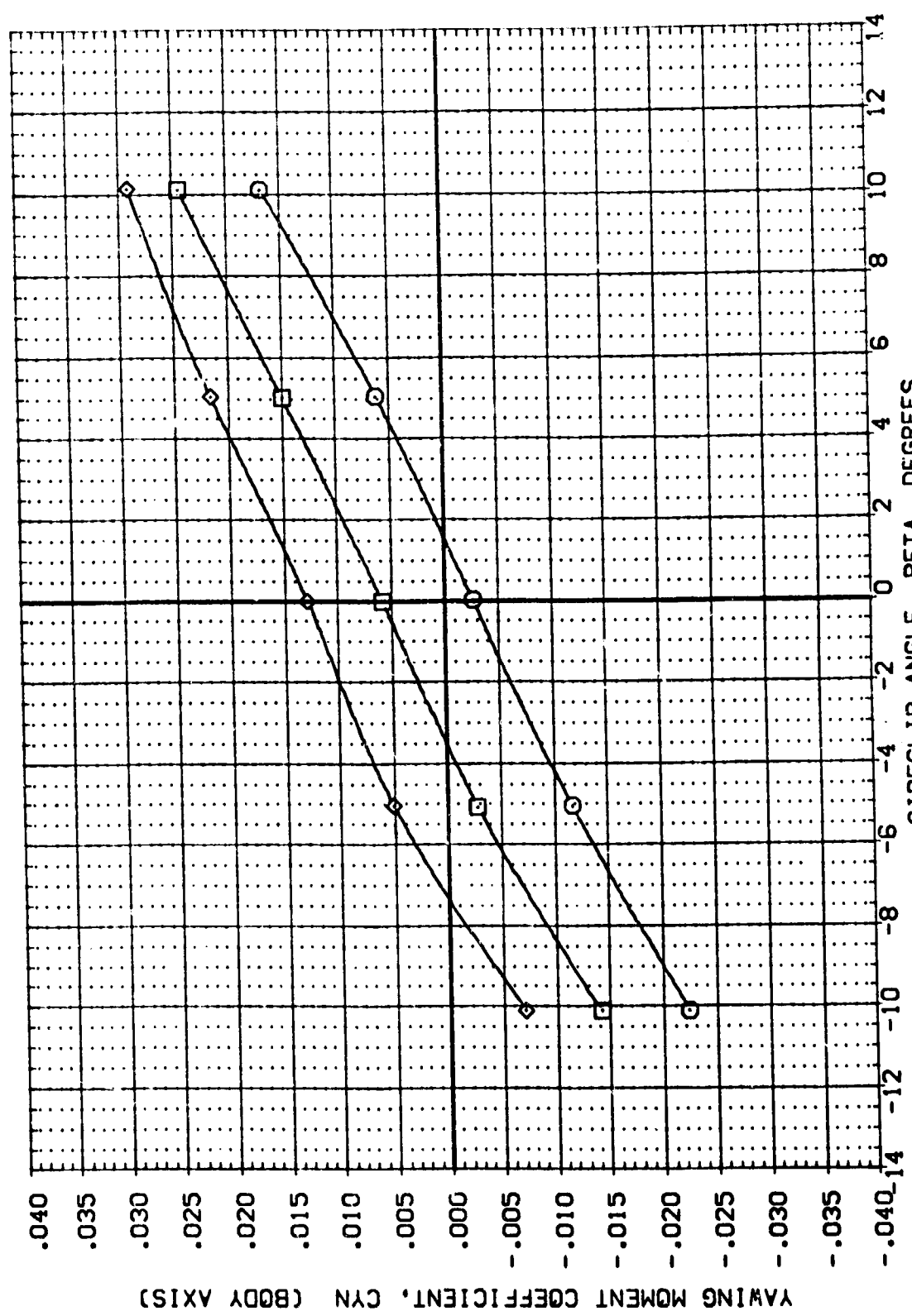


FIGURE 66 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	RUDDER	SFCBRK	REFERENCE INFORMATION
(RPO50)	0A21 B17C7 M4FS V10T23V7R6X9	10.000	.000	.000	\$5.000	SC.FT.: 4.4119 INCHES:
(RPO54)	0A21 B17C7 M4FS V10T23V7R6X9	10.000	.000	-7.500	\$5.000	LREF 19.2289 INCHES:
(RPO58)	0A21 B17C7 M4FS V10T23V7R6X9	10.000	.000	-15.000	\$5.000	BREF 37.9358 INCHES: 43.5974 INCHES: YMRP 1.0000 INCHES: ZMRP 16.2000 INCHES: SCALE .0405

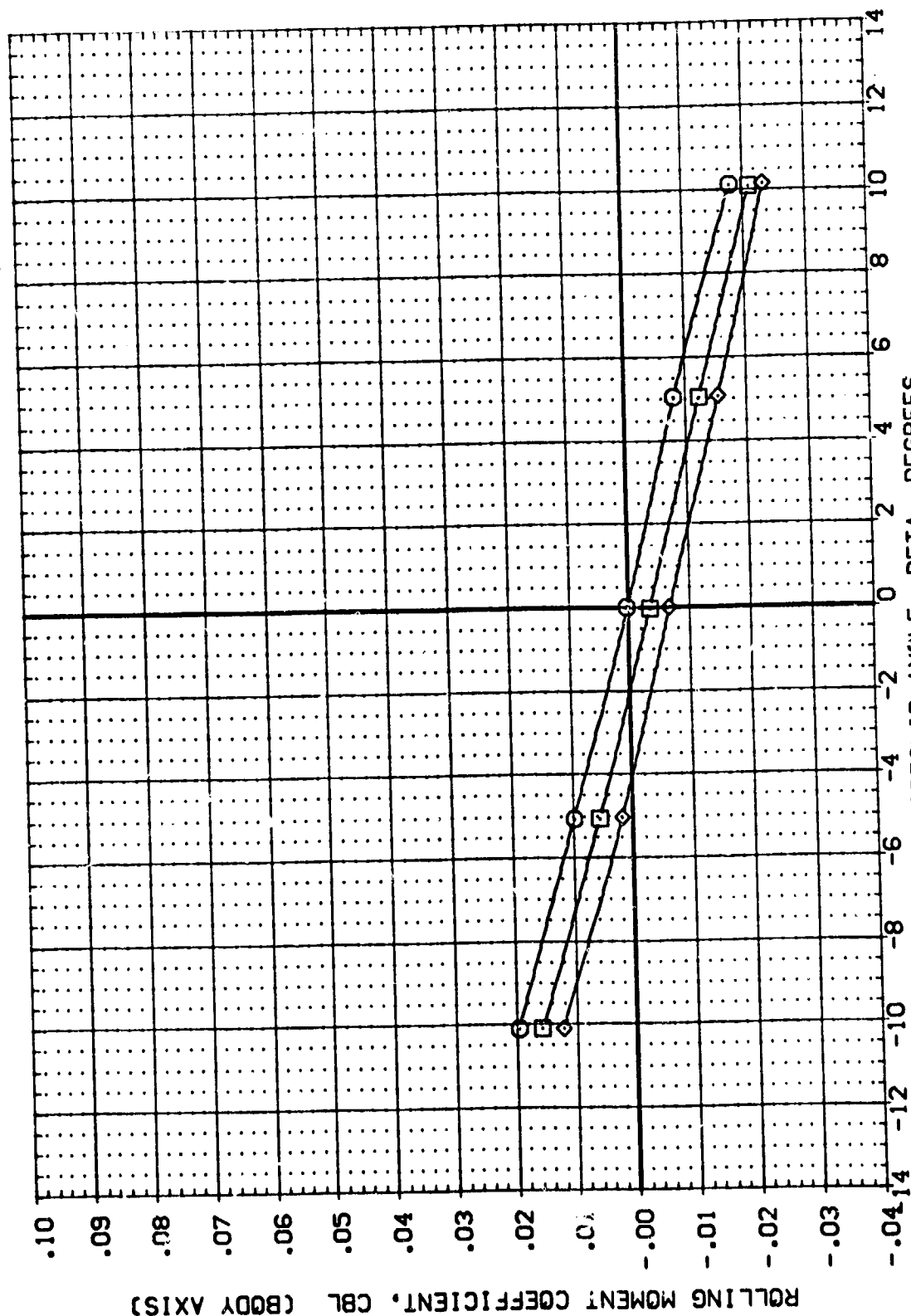


FIGURE 66 RUNNER EFFECTIVENESS WITH SPOBRK = 55 AND ALPHA = 10

$$[A]_{MACH} = .26$$

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	RJDOER	SPOBRK	REFERENCE INFORMATION
(R0P050)	○	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	.000	55.000	SREF 4.419 SQ.FT.
(R0P054)	□	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	-7.500	55.000	LREF 19.2298 INCHES
(R0P058)	◇	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	-15.000	55.000	BREF 37.5369 INCHES
							XMRP 43.5574 INCHES
							YMRP .0000 INCHES
							ZMRP 16.2000 INCHES
							SCALE .0405

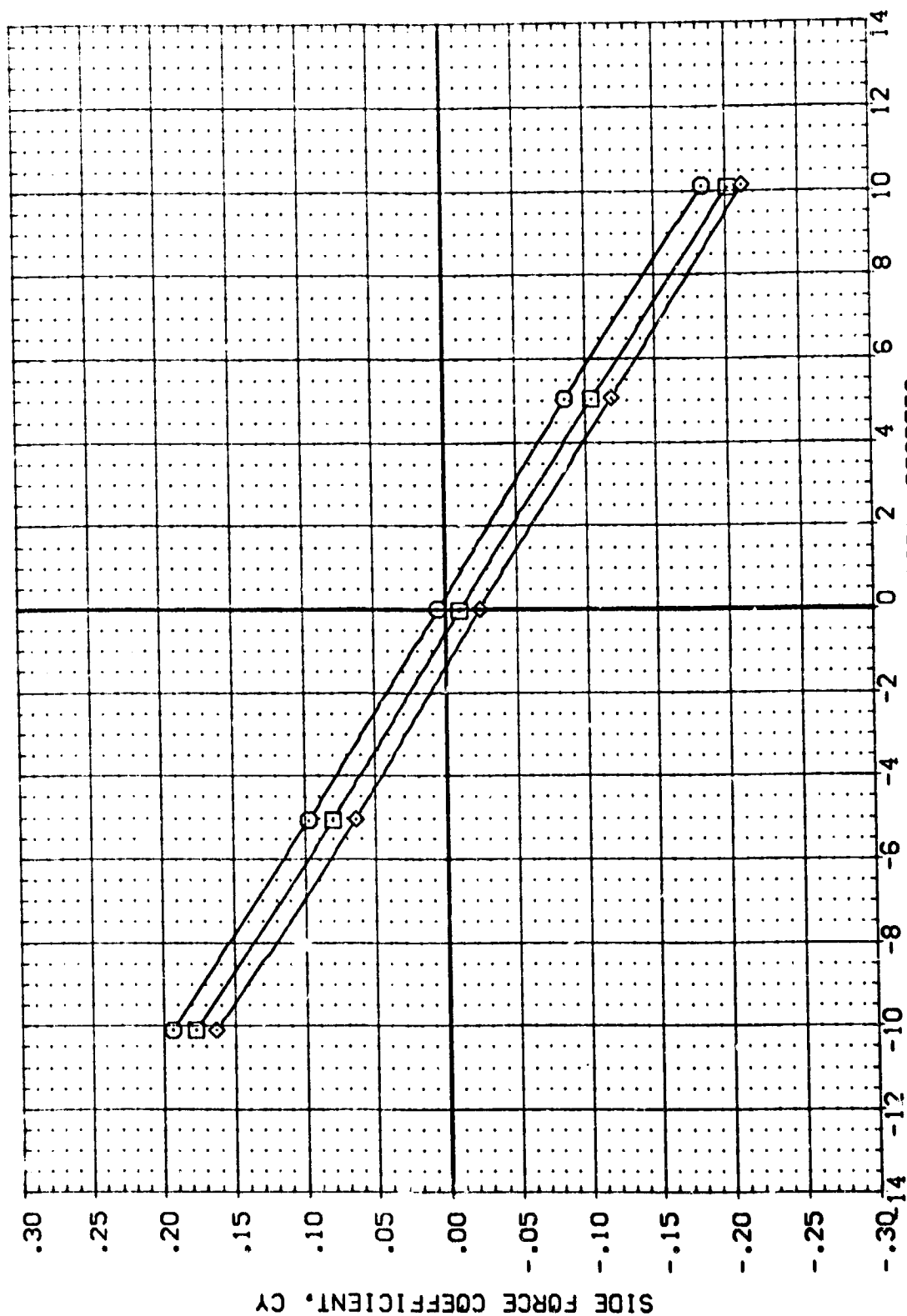


FIGURE 66 RUDDER EFFECTIVENESS WITH SPOBRK = 55 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	RUDDER	SPDBRK	REFERENCE INFORMATION
(RDP051)	DA21 B17C7 M4F5 V107E23V7R6X9	15.000	.000	.000	55.000	SREF 4.4119 SQ.FT.
(RDP055)	DA21 B17C7 M4F5 V107E23V7R6X9	15.000	.000	-7.500	55.000	LREF 19.2298 INCHES
(RDP059)	DA21 B17C7 M4F5 V107E23V7R6X9	15.000	.000	-15.000	55.000	BREF 37.9359 INCHES
						XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 INCHES

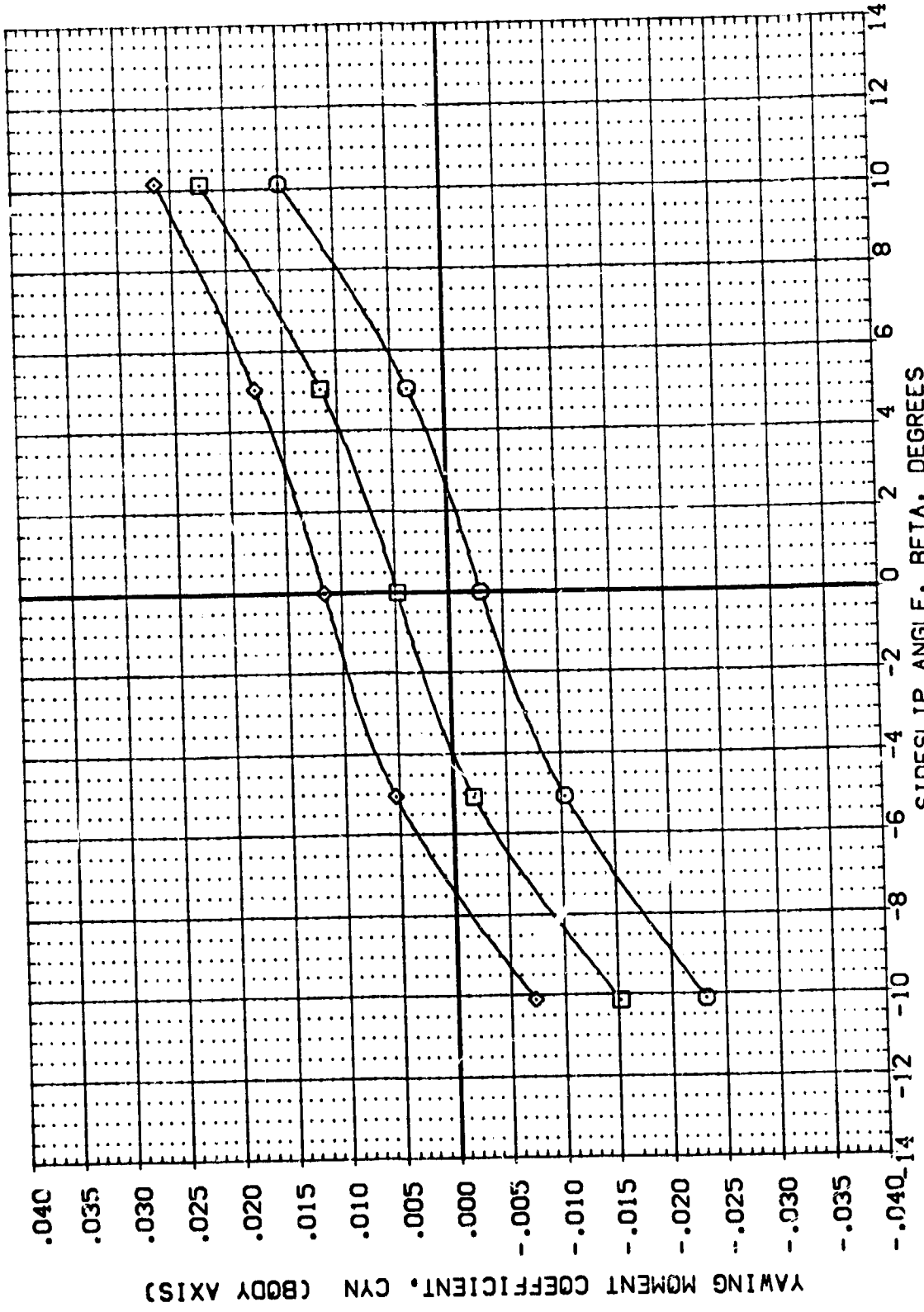


FIGURE 67 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 15

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(R0051)	CA21	B17C7	M4F5	SREF	4.4119
(R0055)	CA21	B17C7	M4F5	LREF	19.2299
(R0059)	CA21	B17C7	M4F5	BREF	37.9359
				YMRP	43.5974
				ZMRP	16.2003
				SCALE	.0405

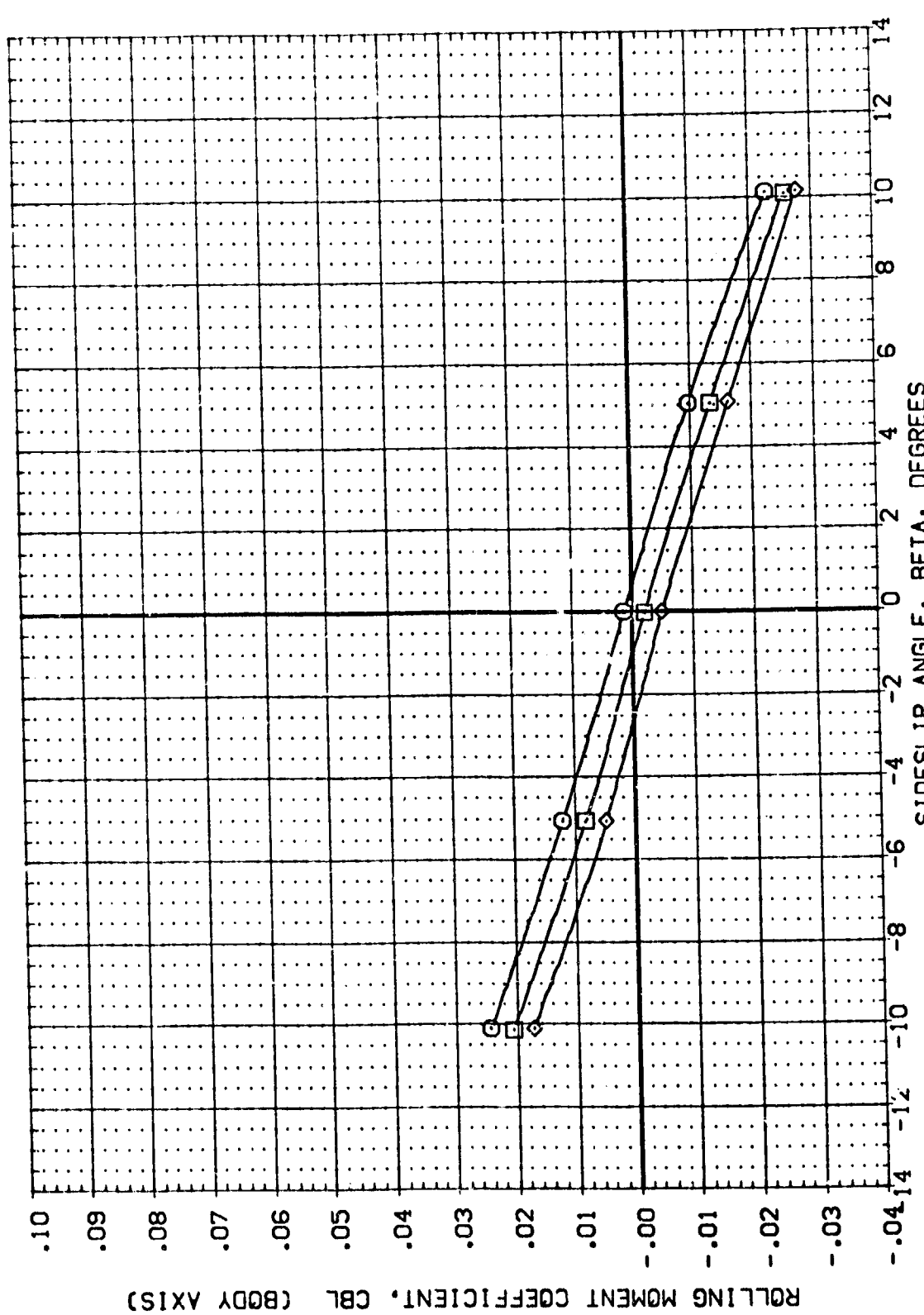


FIGURE 67 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 15

CAJ MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION
(RDC51)	0A21 B17C7 MAFS V107E23V7R6X9	15.000	.000	.000	55.000	SREF 4.4119 SO.FT
(RDC55)	0A21 B17C7 MAFS V107E23V7R6X9	15.000	.000	-7.500	55.000	LREF 19.2299 INCHES
(RDC59)	0A21 B17C7 MAFS V107E23V7R6X9	15.000	.000	-15.000	55.000	BREF 37.9359 INCHES
						YREF 43.5974 INCHES
						ZREF .0000 INCHES
						SCALE 16.2000 INCHES

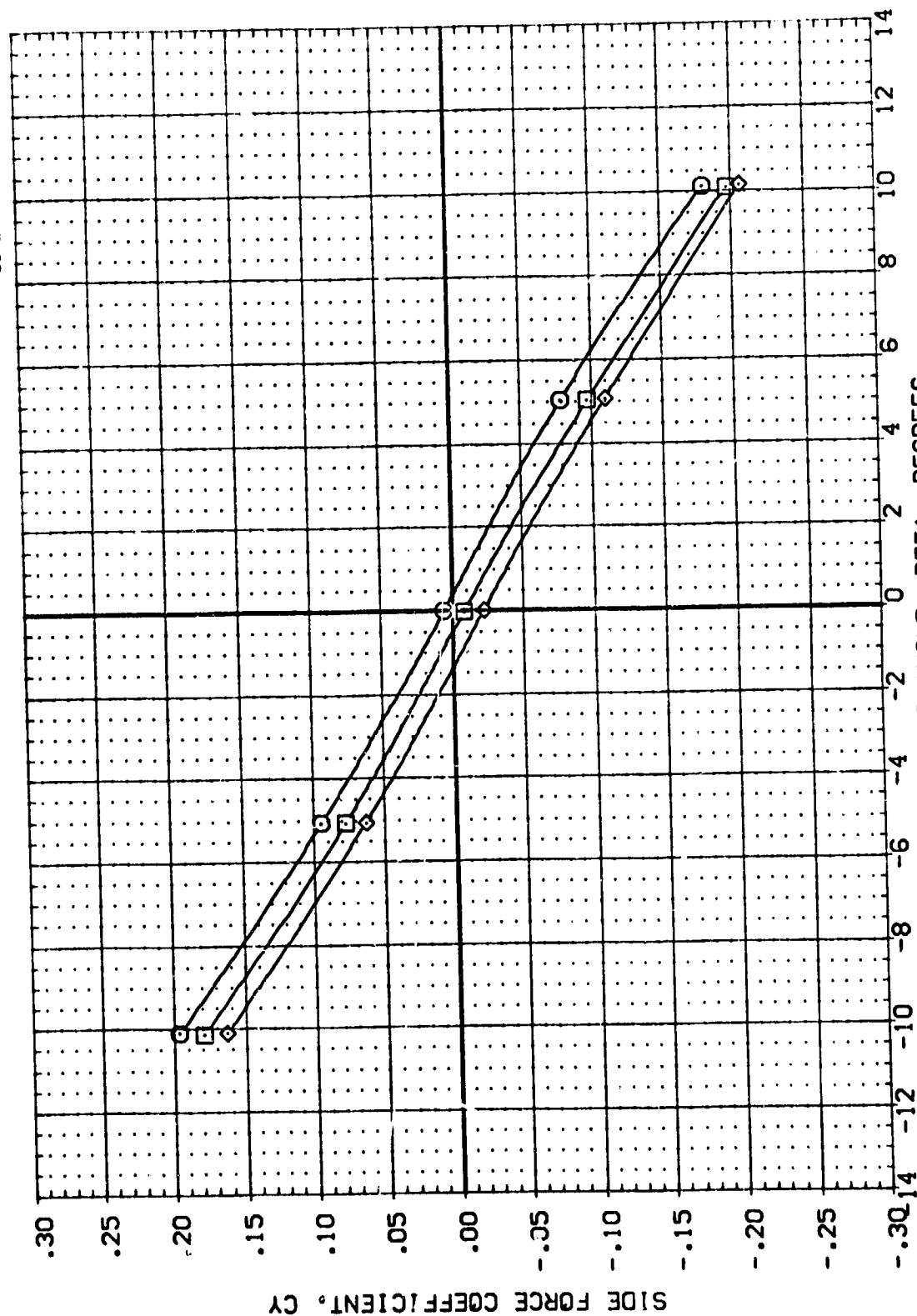


FIGURE 67 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 15

(A)MACH = .26

DAT: SET SYMBOL    CONFIGURATION    DESCRIPTION  
 (R0J52)    OA21    B17C7    M4FS    V107E23V7R6X9  
 (R0P056)    OA21    B17C7    M4FS    V107E23V7R6X9  
 (R0P060)    OA21    B17C7    M4FS    V107E23V7R6X9

ALPHA    AILRON    RUDDER    SPDBRK  
 20.000    .000    .000    55.000  
 20.000    .000    -7.500    55.000  
 20.000    .000    -15.000    55.000

REFERENCE INFORMATION  
 SREF    4.4119    50. FT.  
 LREF    19.2299    INCHES  
 BREF    37.9359    INCHES  
 XMRP    43.5974    INCHES  
 YMRP    .0000    INCHES  
 ZMRP    16.2300    INCHES  
 SCALE    .0405    INCHES

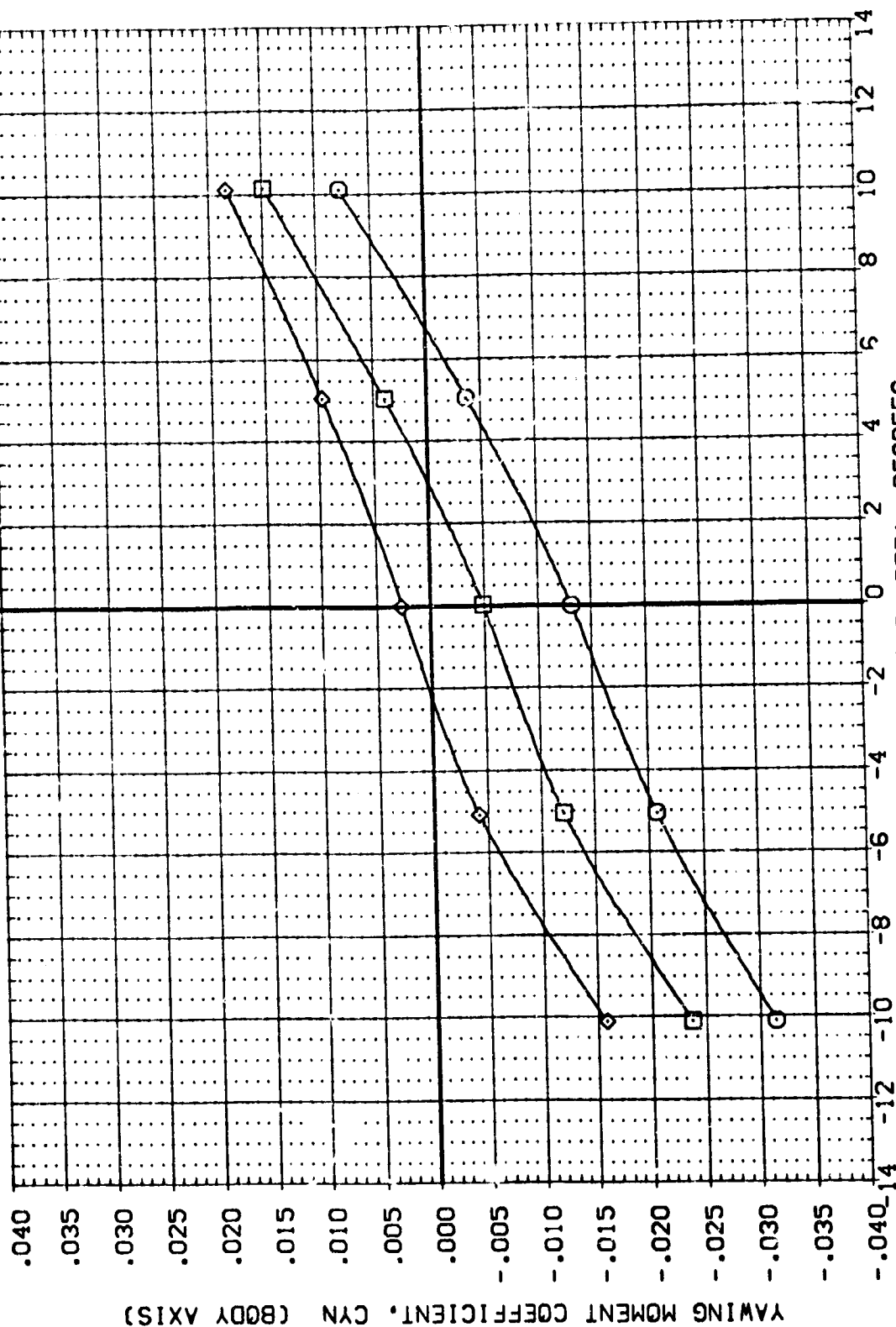


FIGURE 68 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 20  
 (A)YACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[R052]	QAZ1	B17C7	M4FS	SPREF	4.4119
[R055]	QAZ1	B17C7	M4FS	LREF	19.2299
[R060]	QAZ1	B17C7	M4FS	BREF	37.9359
				YMRP	43.5974
				ZMRP	.0000
				SCALE	16.2000
					.0405

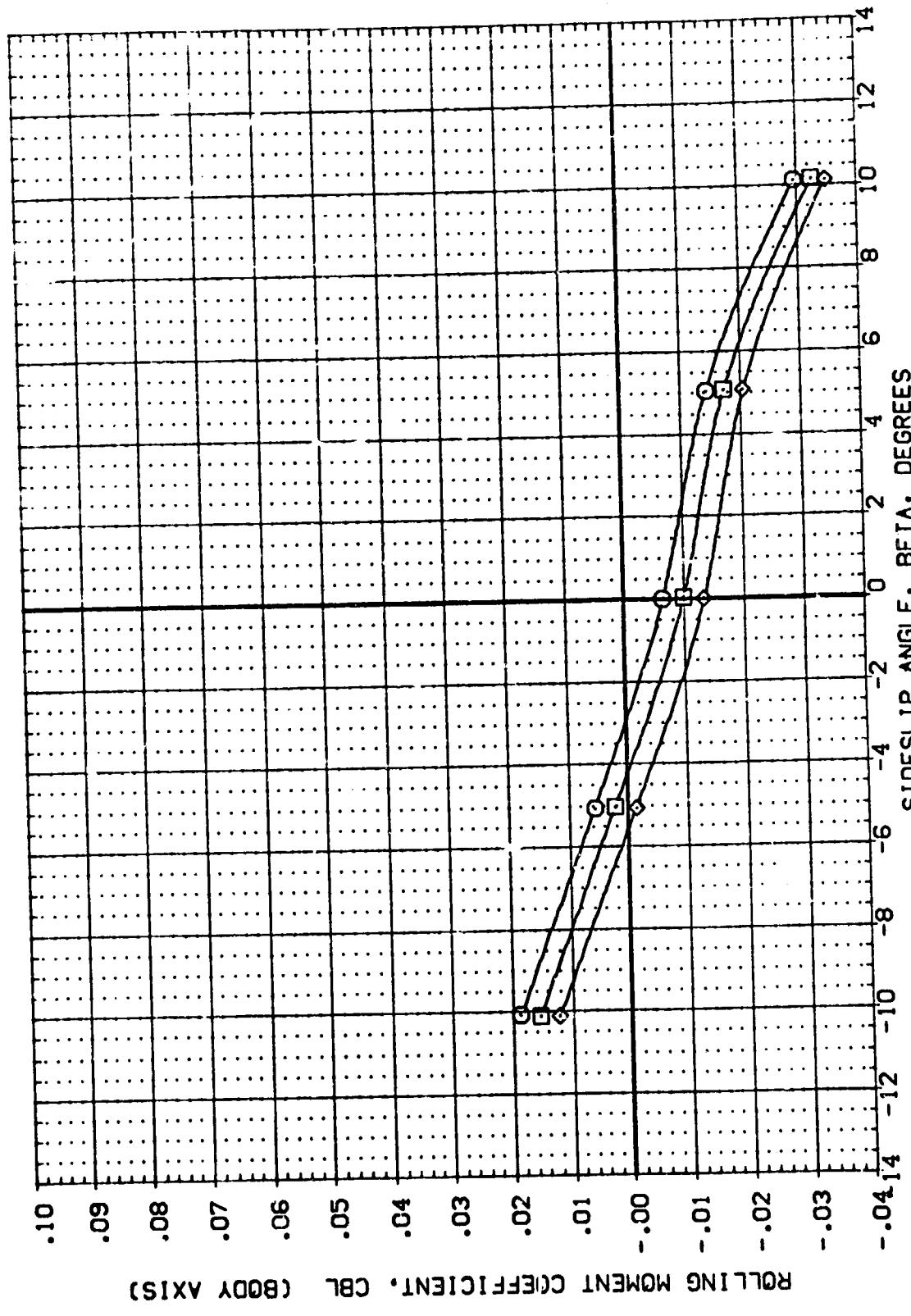


FIGURE 68 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 20

(A)MACH = .26



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ALPHA		AILRON		RUDDER		SPDBRK		REFERENCE INFORMATION	
(RPO52)	DA21	B17C7	M4FS	20.000	.000	.000	.000	55.000	SREF	4.4119	50.000	SO.FT.	
(RPO56)	DA21	B17C7	M4FS	20.000	.000	.000	.000	55.000	LREF	19.2299	55.000	INCHES	
(RPO50)	DA21	B17C7	M4FS	20.000	.000	.000	.000	55.000	BREF	37.9359	55.000	INCHES	
									YMRP	43.5974	55.000	INCHES	
									ZMRP	16.2000	55.000	INCHES	
									SCALE	.0405	55.000	INCHES	

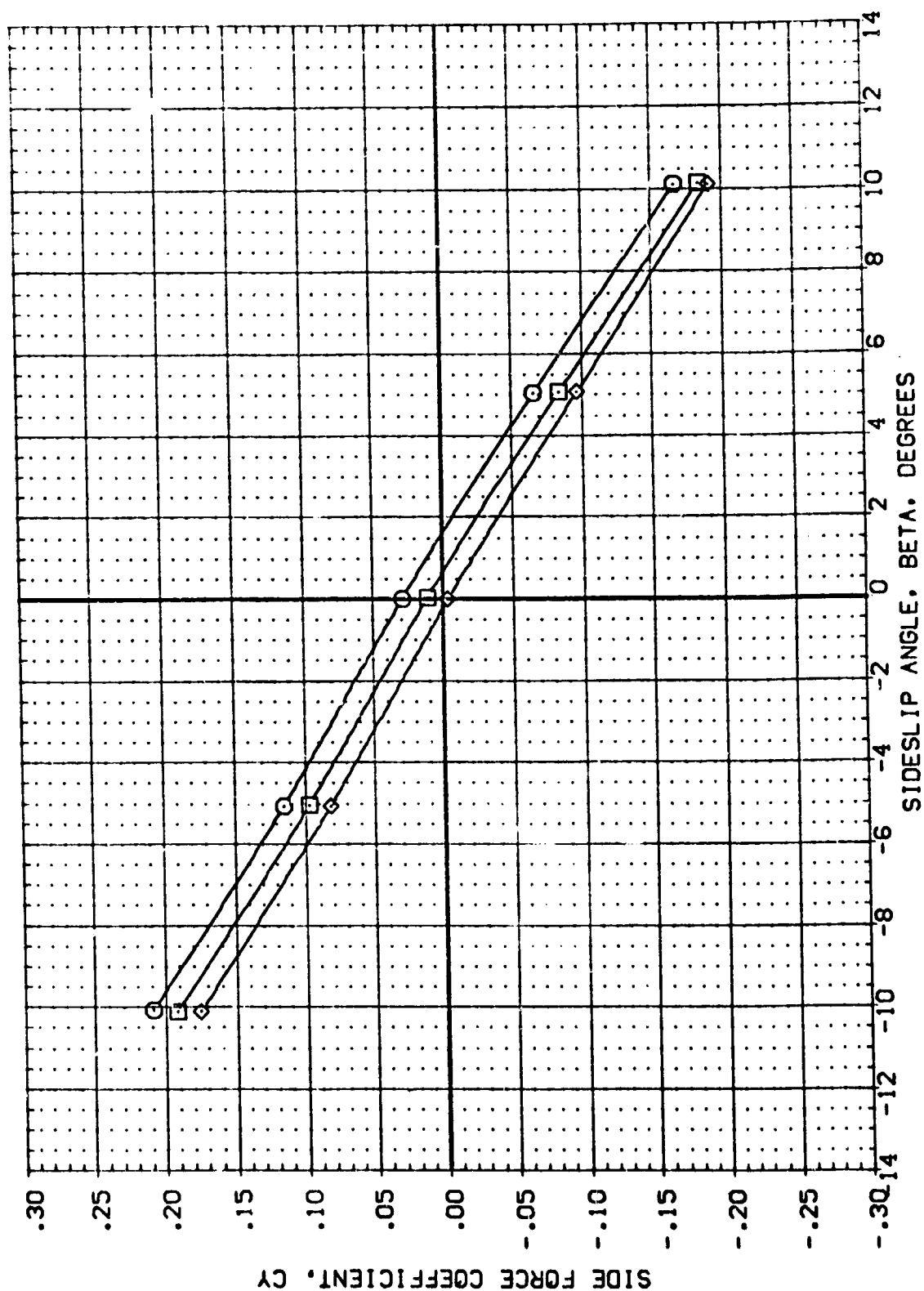


FIGURE 68 RUDDER EFFECTIVENESS WITH SPDBRK = 55 AND ALPHA = 20

(A)MACH = .26

(MDP053)

CA21 B17C7 M4F5 W107E23V7R6X9

REFERENCE INFORMATION  
SREF 4.4119 SO.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XMRP 43.5974 INCHES  
YMRP .0000 INCHES  
ZMRP 16.2000 INCHES  
SCALE .0405

PARAMETRIC VALUES  
MACH .260  
BOFLAP -18.000  
AILRON .000  
SPDBRK 55.000  
DELROJ -7.500  
BETA .000  
ELEVON .000  
VTILINC .000

SYMBOL MAXROJ  
□ -7.500  
○ -15.000

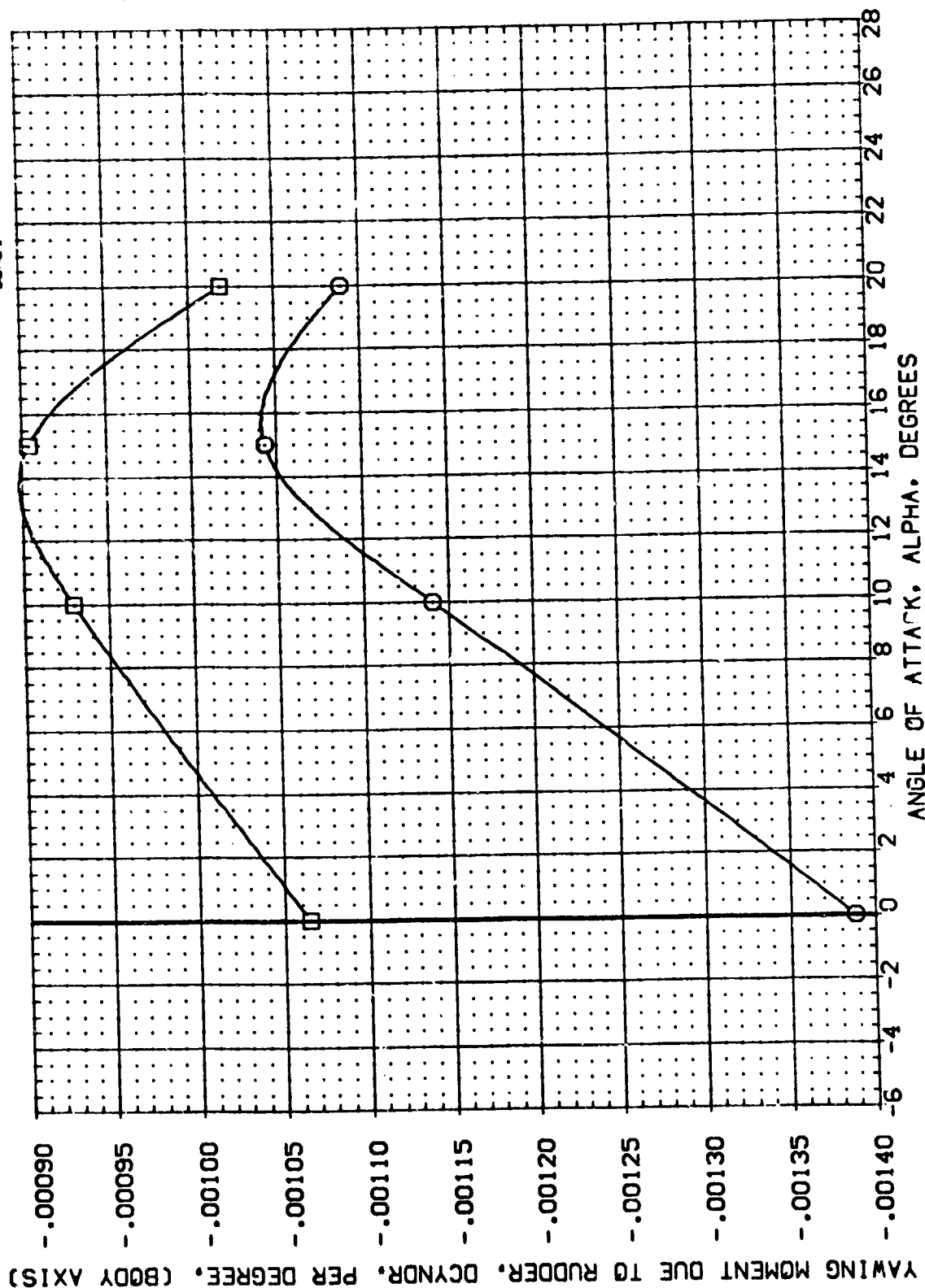


FIGURE 69 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK = 55

(MDP053)

W107E23V7R6X9

M4F5

B17C7

0A21

REFERENCE INFORMATION  
SREF 4.4119 SO.FT.  
LREF 19.2299 INCHES  
BREF 37.9359 INCHES  
XREF 43.5974 INCHES  
YREF .0000 INCHES  
ZREF 16.2000 INCHES  
SCALE .0405

PARAMETRIC VALUES  
MACH .260 BETA .000  
BOFLAP -18.000 ELEVON .000  
AILRON .000 VTLINC .000  
SPOBRK 55.000 DELRUO -7.500

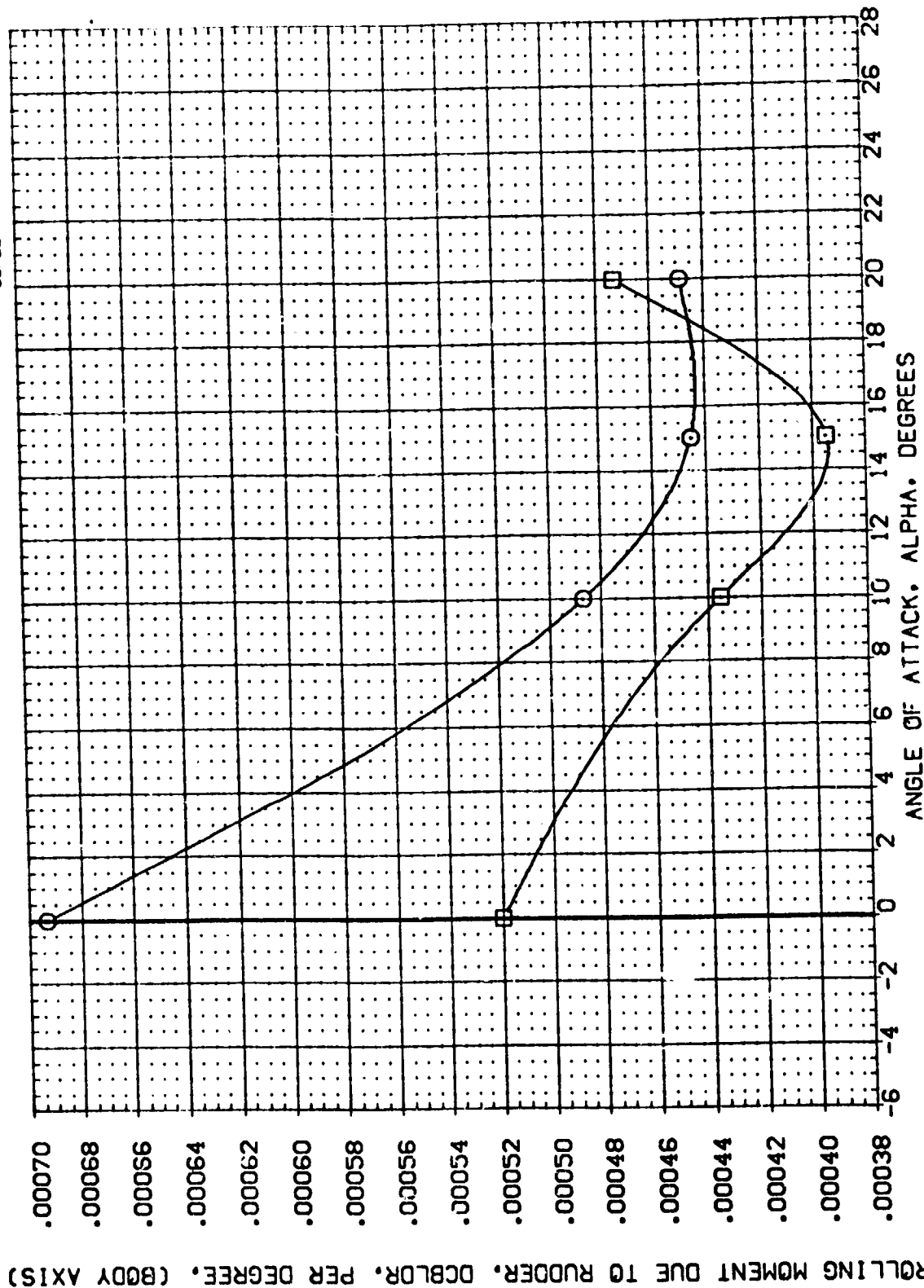


FIGURE 69 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPOBRK = 55

(MDP053)

0A21 B17C7 M4F5 W107E23V7R6X9

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP 16.0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

SYMBOL    MACH    BOFLAP    AILRON    SPDBRK  
 ○    -7.500    -15.000    -18.000    55.000  
 □    .260    .000    .000    .000  
 PARAMETRIC VALUES  
 BEIA .000  
 ELEVON .000  
 VTLINC .000  
 DELRUD -7.500

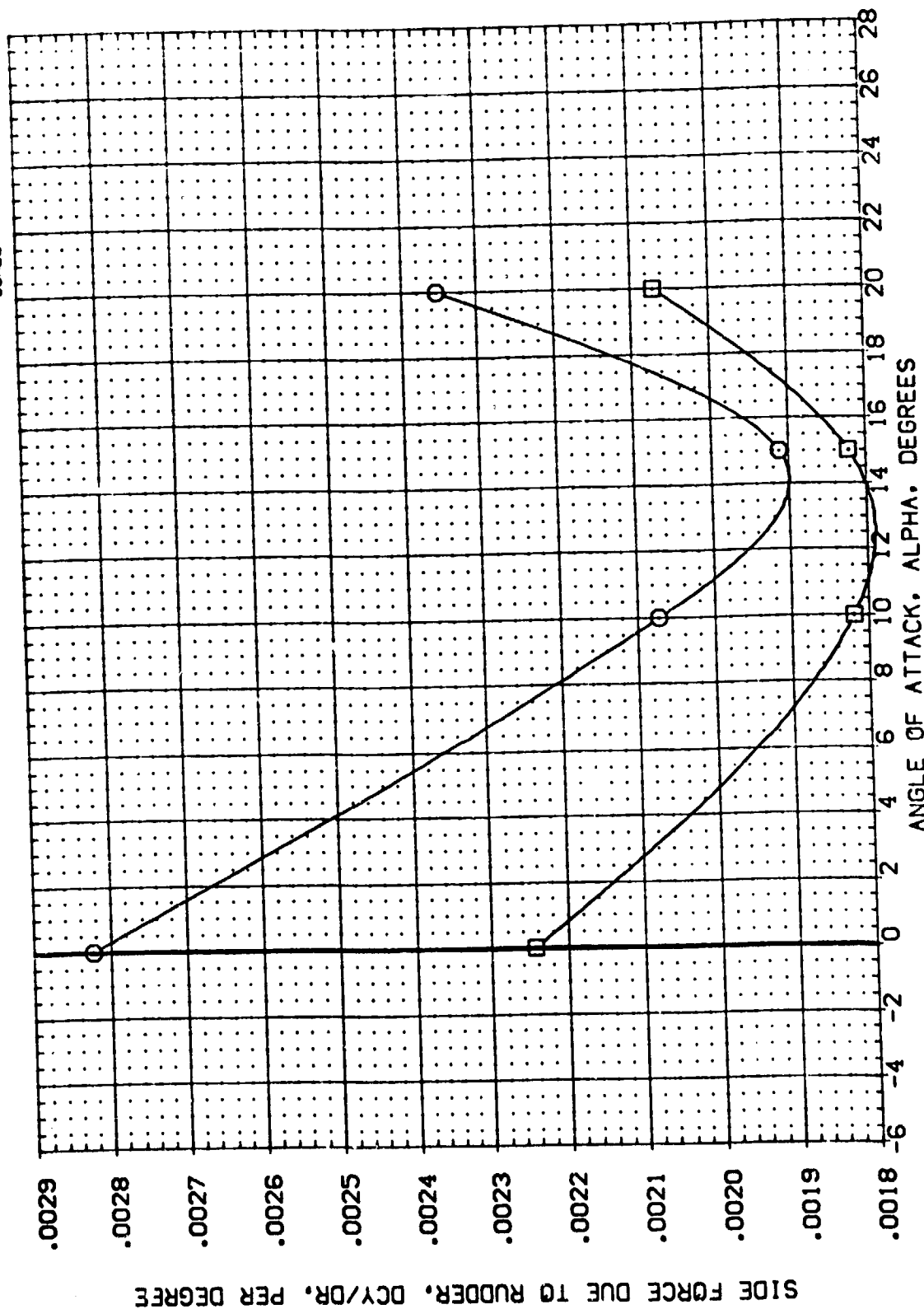


FIGURE 69 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK = 55  
 PAGE 499

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RPO036) 0A21 B17C7 M4F5 V107E23V7R6X9  
 (RPO040) 0A21 B17C7 M4F5 V107E23V7R6X9  
 (RPO044) 0A21 B17C7 M4F5 V107E23V7R6X9

ALPHA .000 .000 .000  
 AILRON .000 .000 .000  
 RUDDER .000 -7.500 -15.000  
 SPDBRK 85.000 85.000 85.000  
 REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2289 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP 6.0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

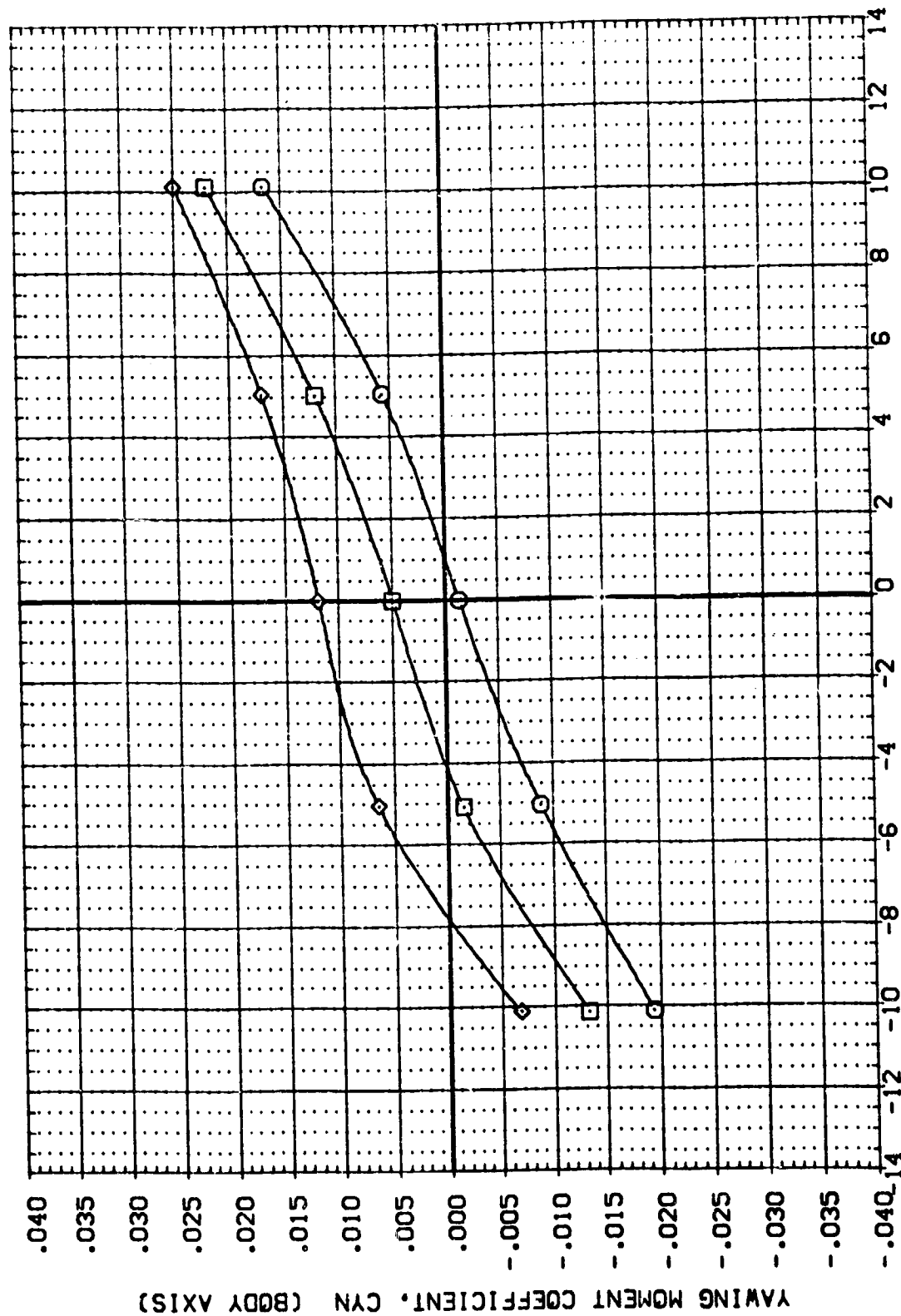


FIGURE 70 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 0

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

(RDP036)	0A21	B17C7	M4FS	V107E23V7R6X9
(RDP040)	0A21	B17C7	M4FS	V107E23V7R6X9
(RDP044)	0A21	B17C7	M4FS	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.4119	50. FT.
LREF	19.2299	INCHES
BREF	37.9355	INCHES
XMRP	43.5974	INCHES
YMRP	0.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ALPHA    AILERON    RUDDER    SPDBRK

.000	.000	.000	85.000
.000	.000	-7.500	85.000
.000	.000	-15.000	85.000

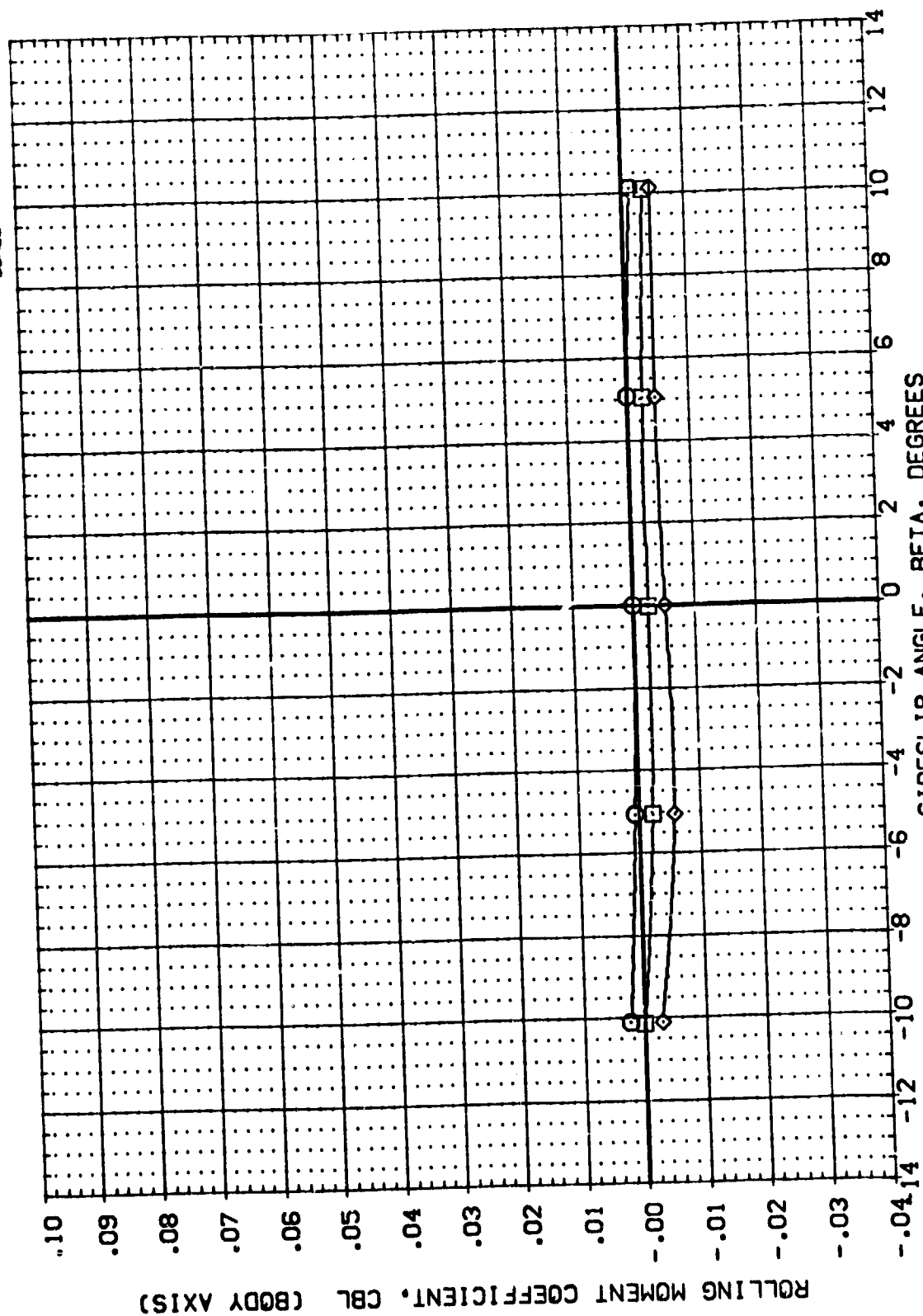


FIGURE 70 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 0

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(R0036)	QAZ1	B17C7	M4F5	V107E23V7R6X9	SREF
(R0040)	QAZ1	B17C7	M4F5	V107E23V7R6X9	LREF
(R0044)	QAZ1	B17C7	M4F5	V107E23V7R6X9	BREF
					XMRP
					YMRP
					ZMRP
					SCALE
					SPDBRK
					RUDER
					ATLRON
					ALPHA
					SC.FT.
					INCHES
					INCHES
					INCHES
					INCHES
					INCHES
					SCALE

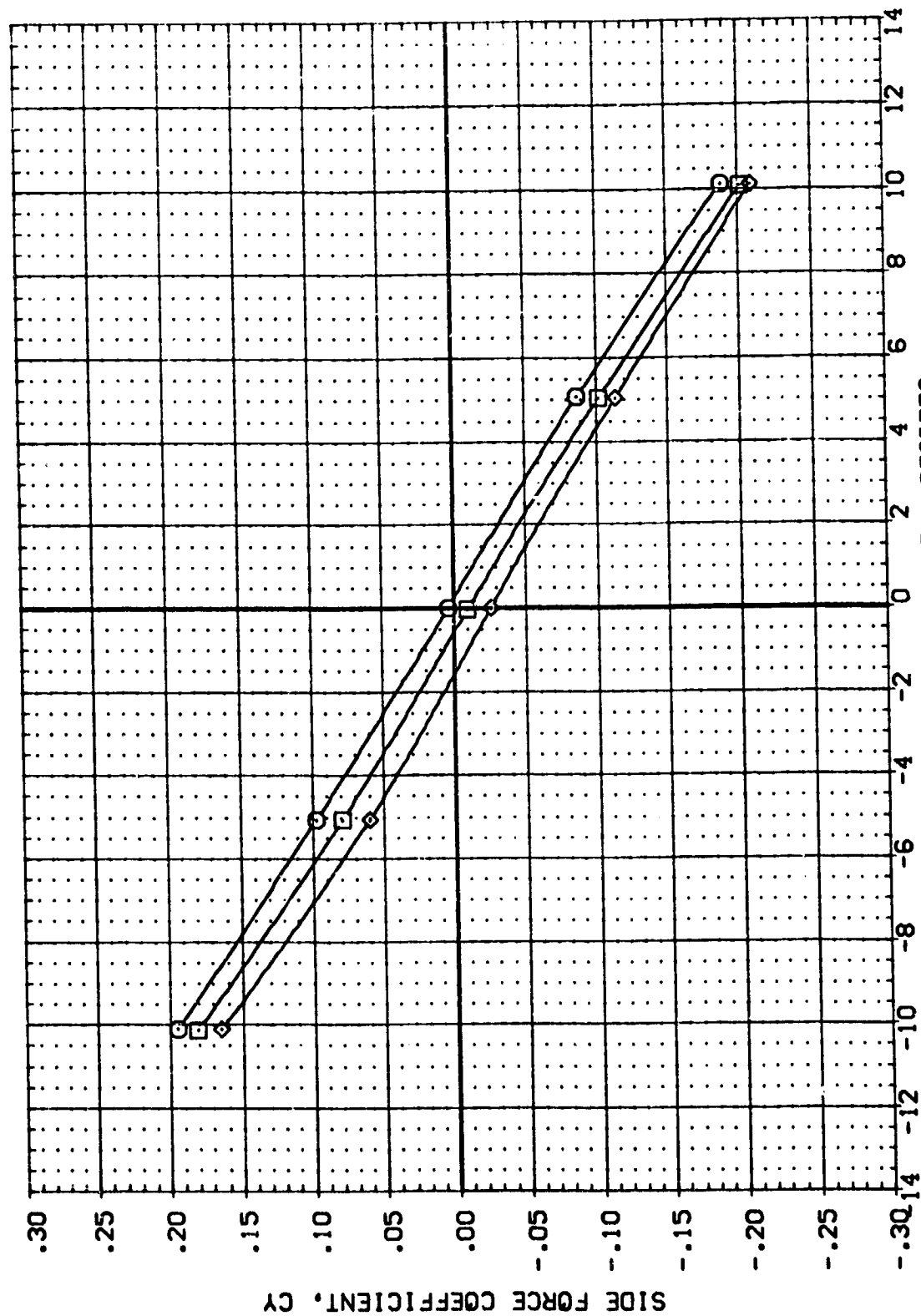


FIGURE 70 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 0

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

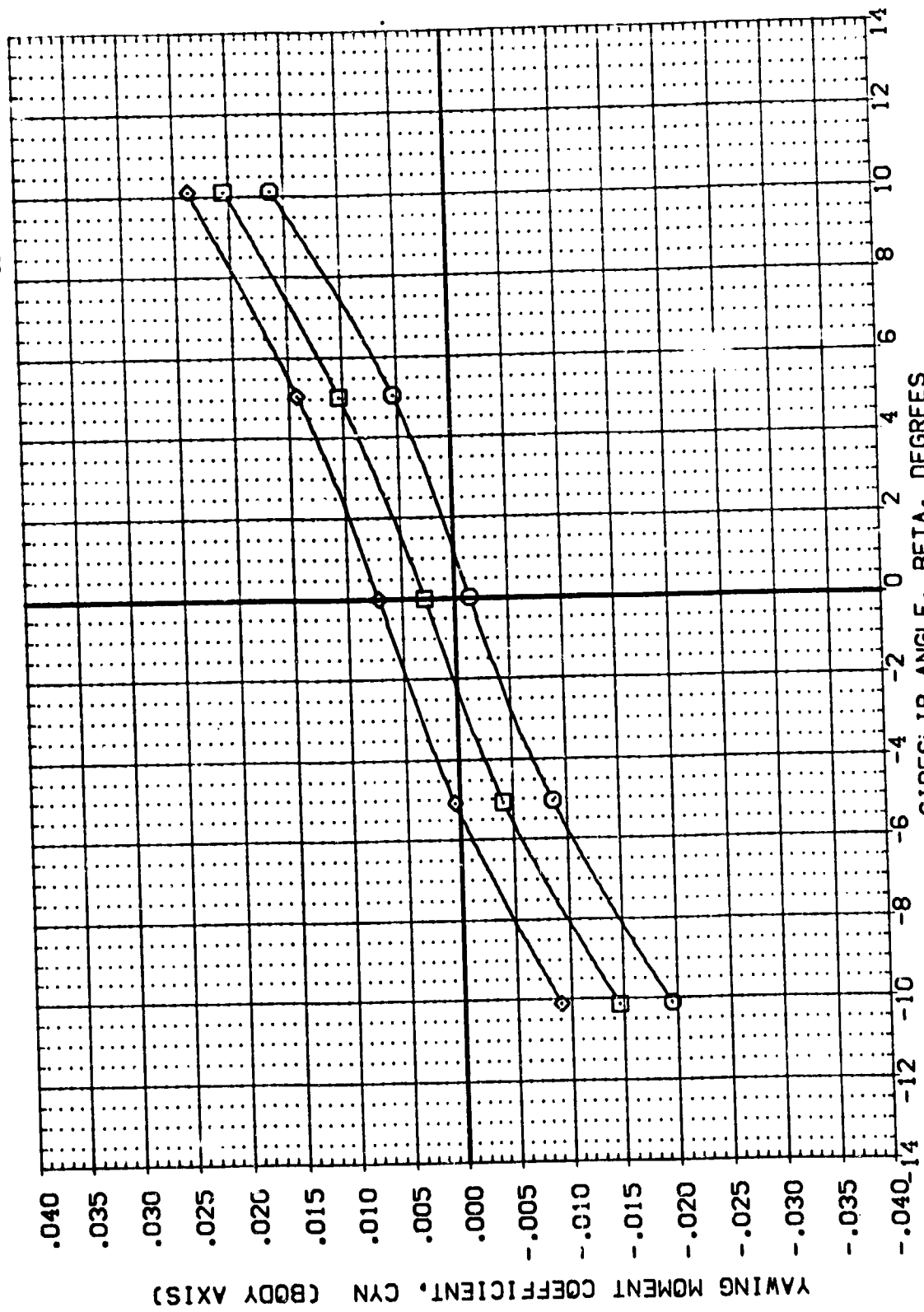
(RDP037)	DA21	B17C7	M4FS	V107E23V7R6X9
(RDP041)	DA21	B17C7	M4FS	V107E23V7R6X9
(RDP045)	DA21	B17C7	M4FS	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.4119	SO.FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ALPHA    ALLRON    RUDDER    SPDBRK

10.000	.000	.000	85.000
10.000	.000	-7.500	85.000
10.000	.000	-15.000	85.000



SIDSLIP ANGLE, BETA, DEGREES

FIGURE 71 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 10

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILRON	RUDDER	SPDBRK	REFERENCE INFORMATION
(RDP037)	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	.000	85.000	SREF 4.4119 SQ.FT.
(RDP041)	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	-7.500	85.000	LREF 19.2298 INCHES
(RDP045)	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	-15.000	85.000	BREF 37.9593 INCHES
						XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0475

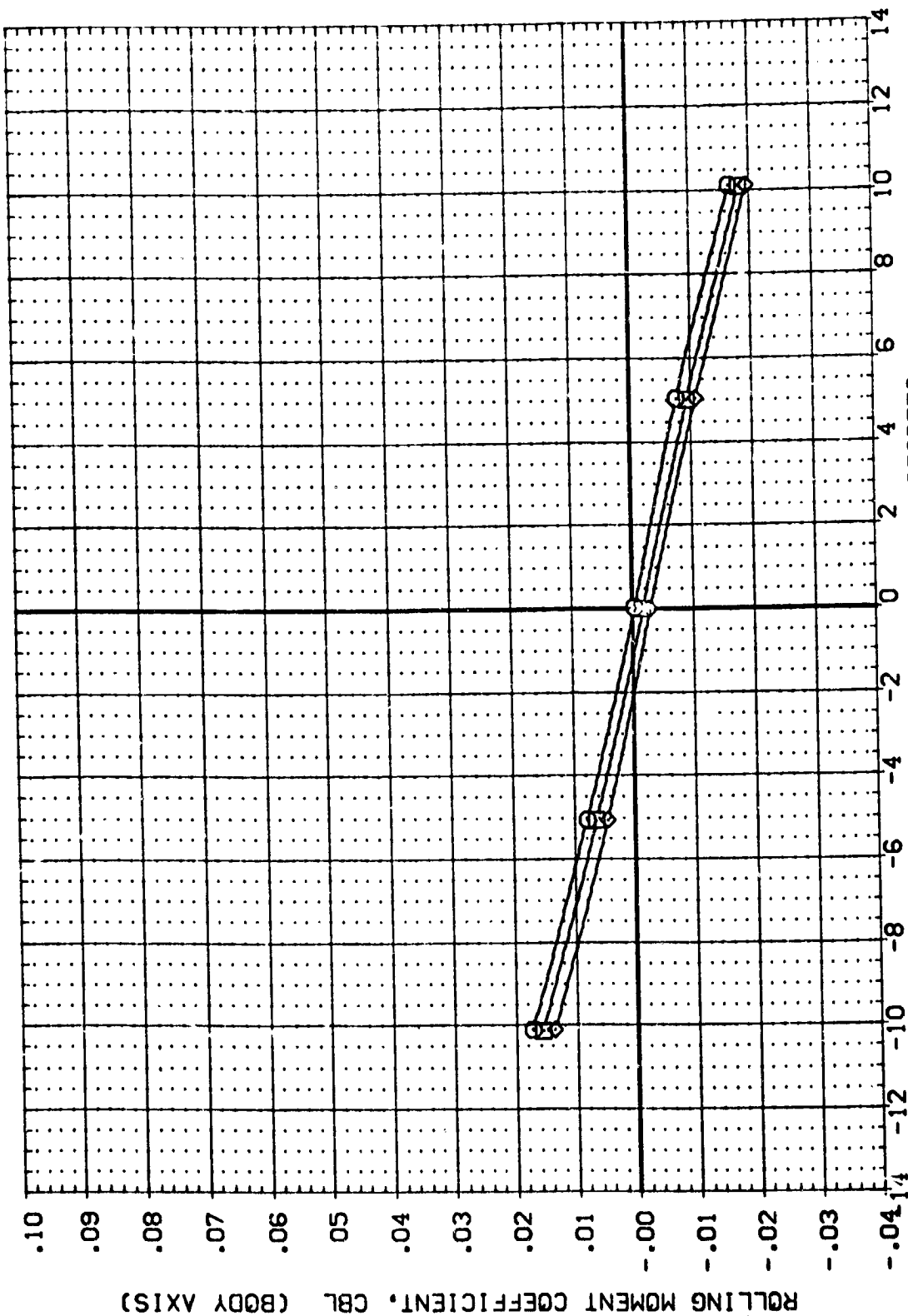


FIGURE 71 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 10

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (RPO37) 0A21 B17C7 M4FS V107E23V7R6X9  
 (RPO41) 0A21 B17C7 M4FS V107E23V7R6X9  
 (RPO45) 0A21 B17C7 M4FS V107E23V7R6X9

ALPHA 10.000  
 10.000  
 10.000

AILRON .000  
 .000  
 .000

RUDDER .000  
 -7.500  
 -15.000

SPDBRK 85.000  
 85.000  
 85.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 YMRP 43.5974 INCHES  
 ZMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

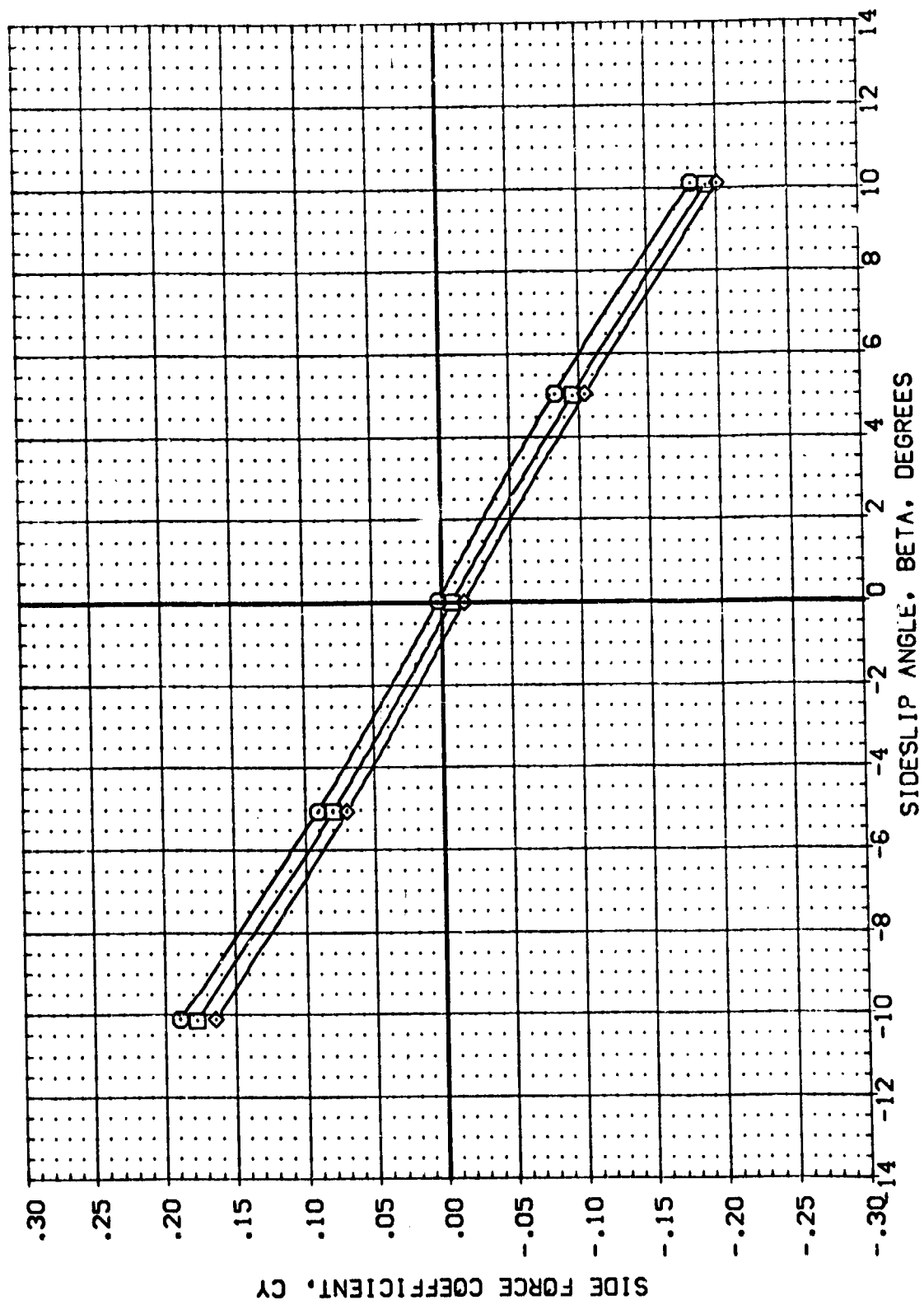


FIGURE 71 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 10

CAMACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDBRK	REFERENCE INFORMATION
(RPO38)	0A21 B17C7 MAF V107E23V7R6X9	15.000	.000	.000	85.000	SREF 4.4119 SQ.FT.
(RPO42)	0A21 B17C7 MAF V107E23V7R6X9	15.000	.000	-7.500	85.000	LREF 19.2259 INCHES
(RPO46)	0A21 B17C7 MAF V107E23V7R6X9	15.000	.000	-15.000	85.000	BREF 37.9359 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

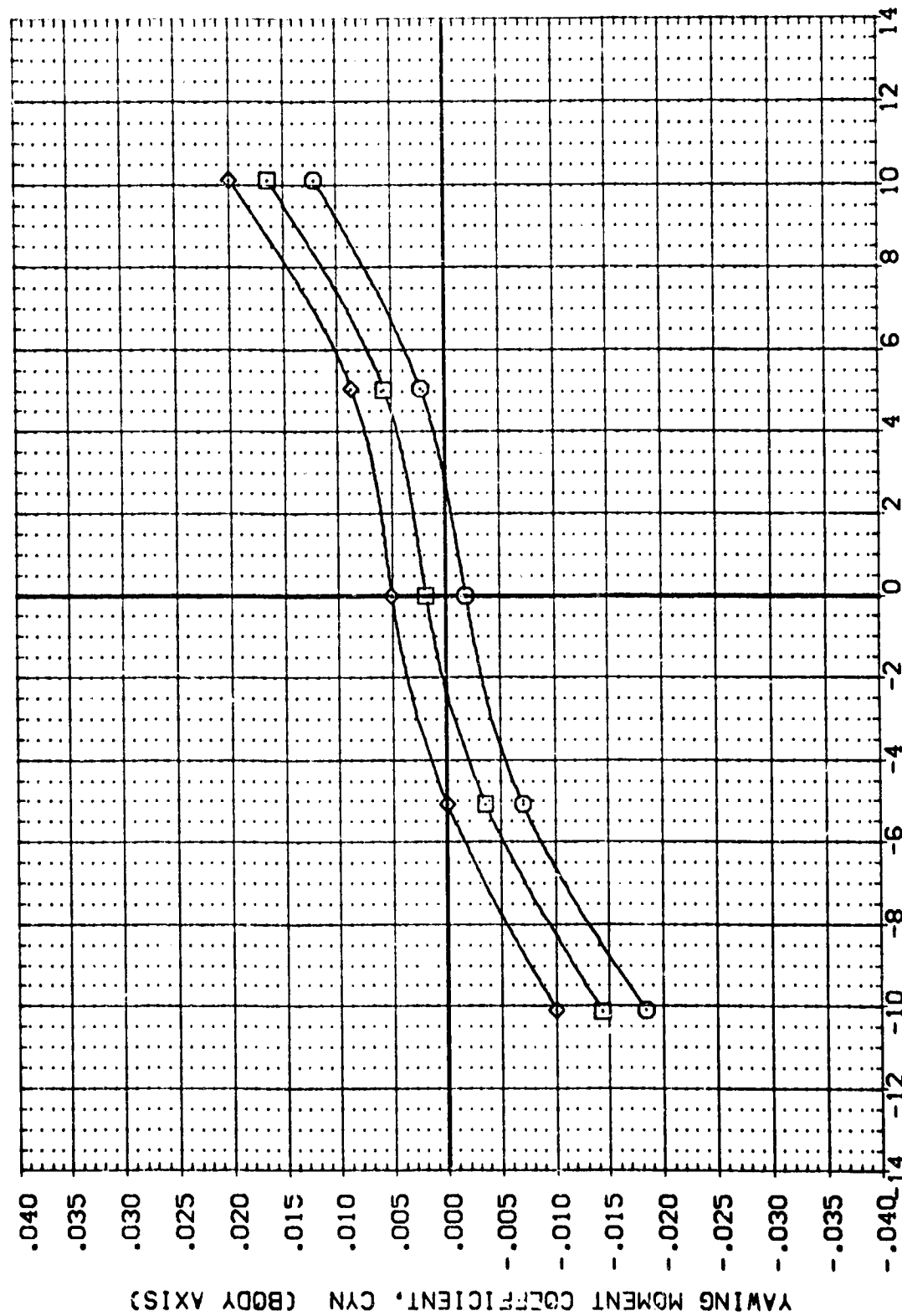


FIGURE 72 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 15

(AJMACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

[ RPO38 ]	0A21	B17C7	M4F5	V107E23V/TRSX9
[ RPO42 ]	0A21	B17C7	M4F5	V107E23V/TRSX9
[ RPO46 ]	0A21	B17C7	M4F5	V107E23V/TRSX9

REFERENCE INFORMATION

SREF	4.4119	50 FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ALPHA    AILRON    RUDDER    SPDBRK

15.000	.000	.000	85.000
15.000	.000	-7.500	85.000
15.000	.000	-15.000	85.000

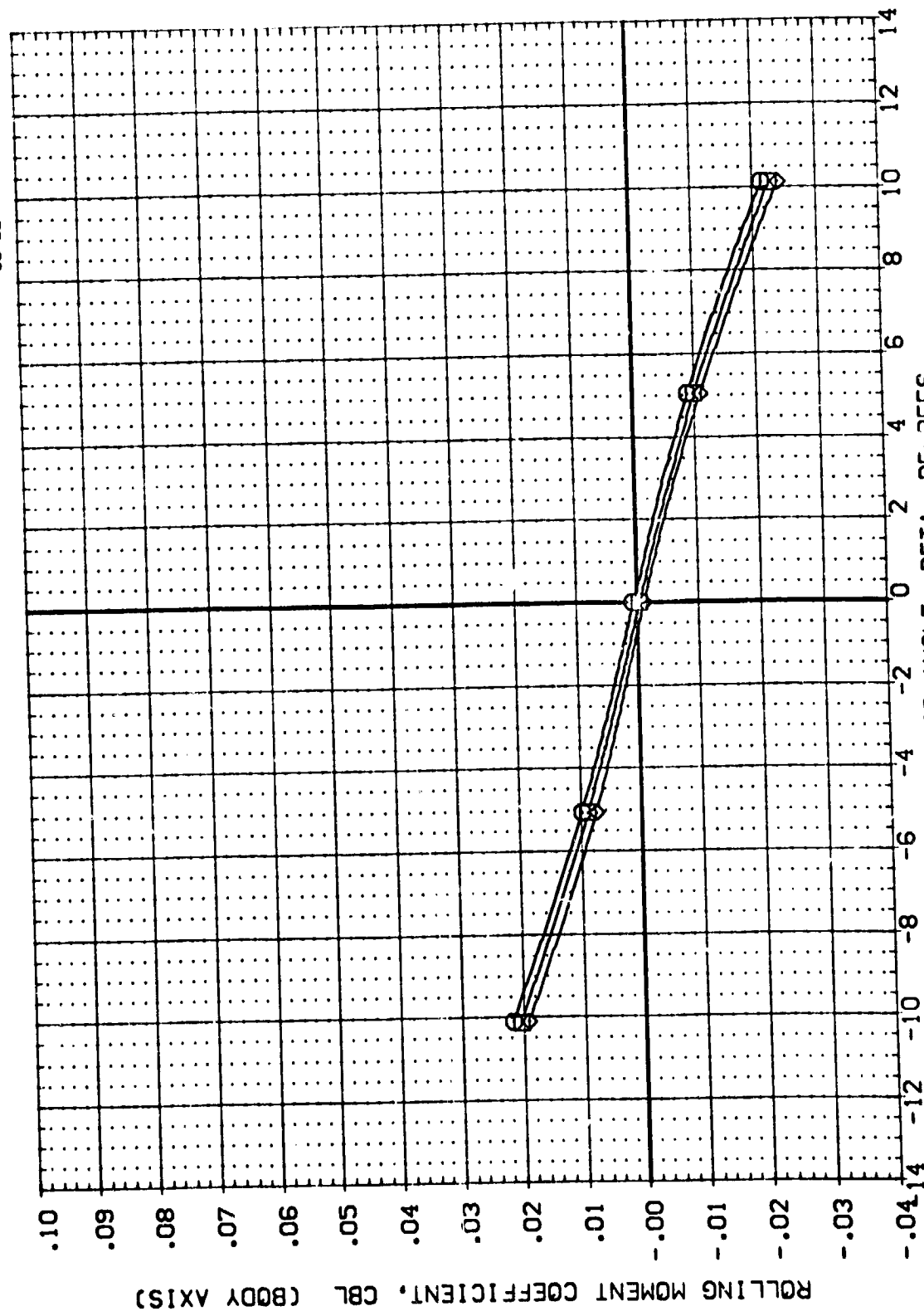


FIGURE 72 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 15

(A)MACH = 0.26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPOBRK	REFERENCE INFORMATION
(RDP038)	QA21 B17C7 MAFS V107E23V7R6X9	15.000	.000	.000	85.000	SREF 4.4119 SQ.FT.
(RDP042)	QA21 B17C7 MAFS V107E23V7R6X9	15.000	.000	-7.500	85.000	LREF 19.2219 INCHES
(RDP046)	QA21 B17C7 MAFS V107E23V7R6X9	15.000	.000	-15.000	85.000	BREF 37.9359 INCHES
						YMRP 43.5974 INCHES
						ZMRP .0000 INCHES
						SCALE 16.2500 INCHES

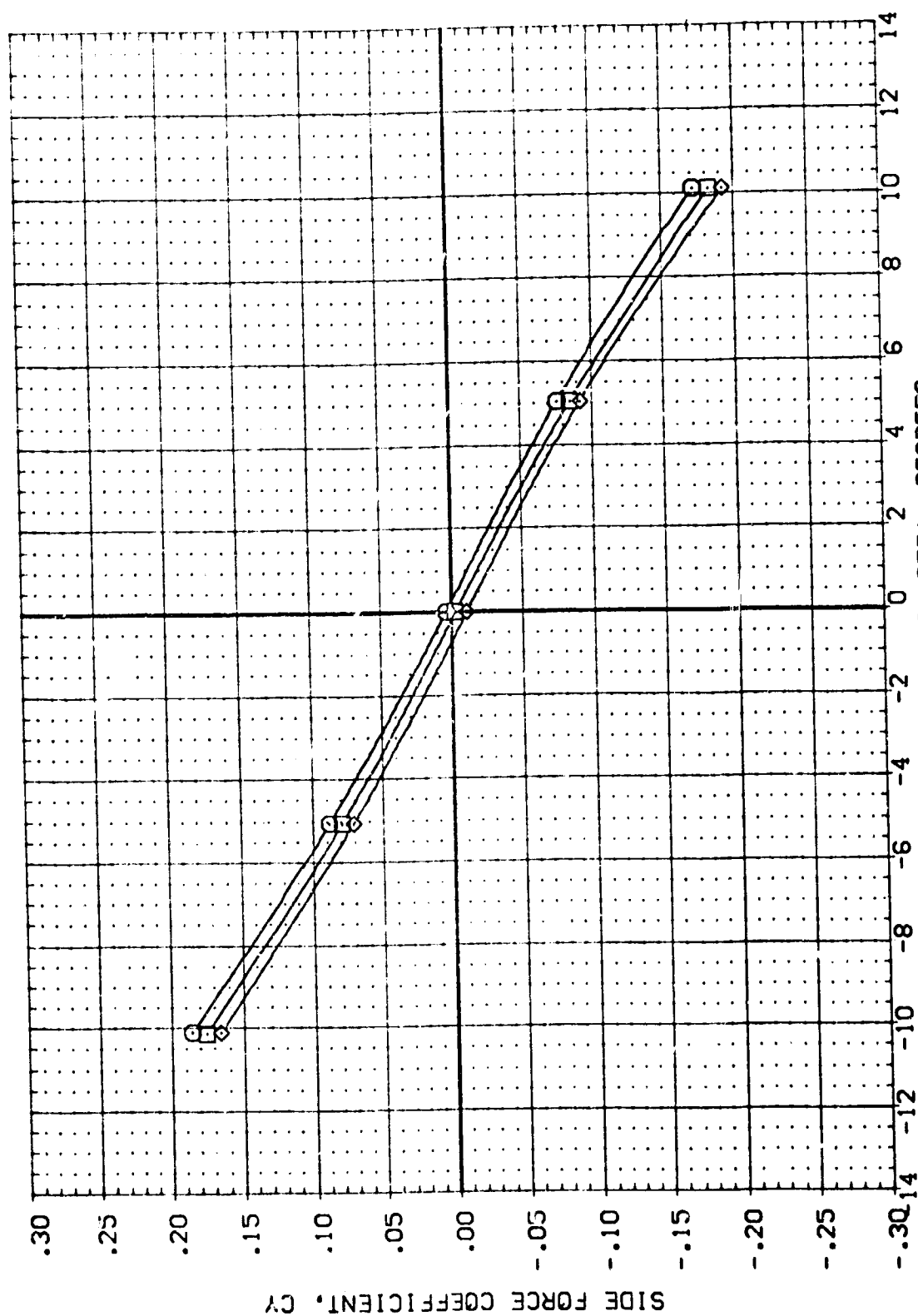


FIGURE 72 RUDDER EFFECTIVENESS WITH SPOBRK = 85 AND ALPHA = 15

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(RDP039)	DA21 B17C7 M4FS V107E23V7R6XS
(RDP043)	DA21 B17C7 M4FS V107E23V7R6XS
(RDP047)	DA21 B17C7 M4FS V107E23V7R6XS

REFERENCE INFORMATION

REFERENCE INFORMATION	VALUE
SREF	4.4119
LREF	19.2298
BREF	37.5359
XMRP	43.5974
YMRP	16.0000
ZMRP	16.2000
SCALE	.0405

ALPHA RUDDER SPOBRK

ALPHA	RUDDER	SPOBRK
20.000	.000	85.000
20.000	-7.500	85.000
20.000	-15.000	85.000

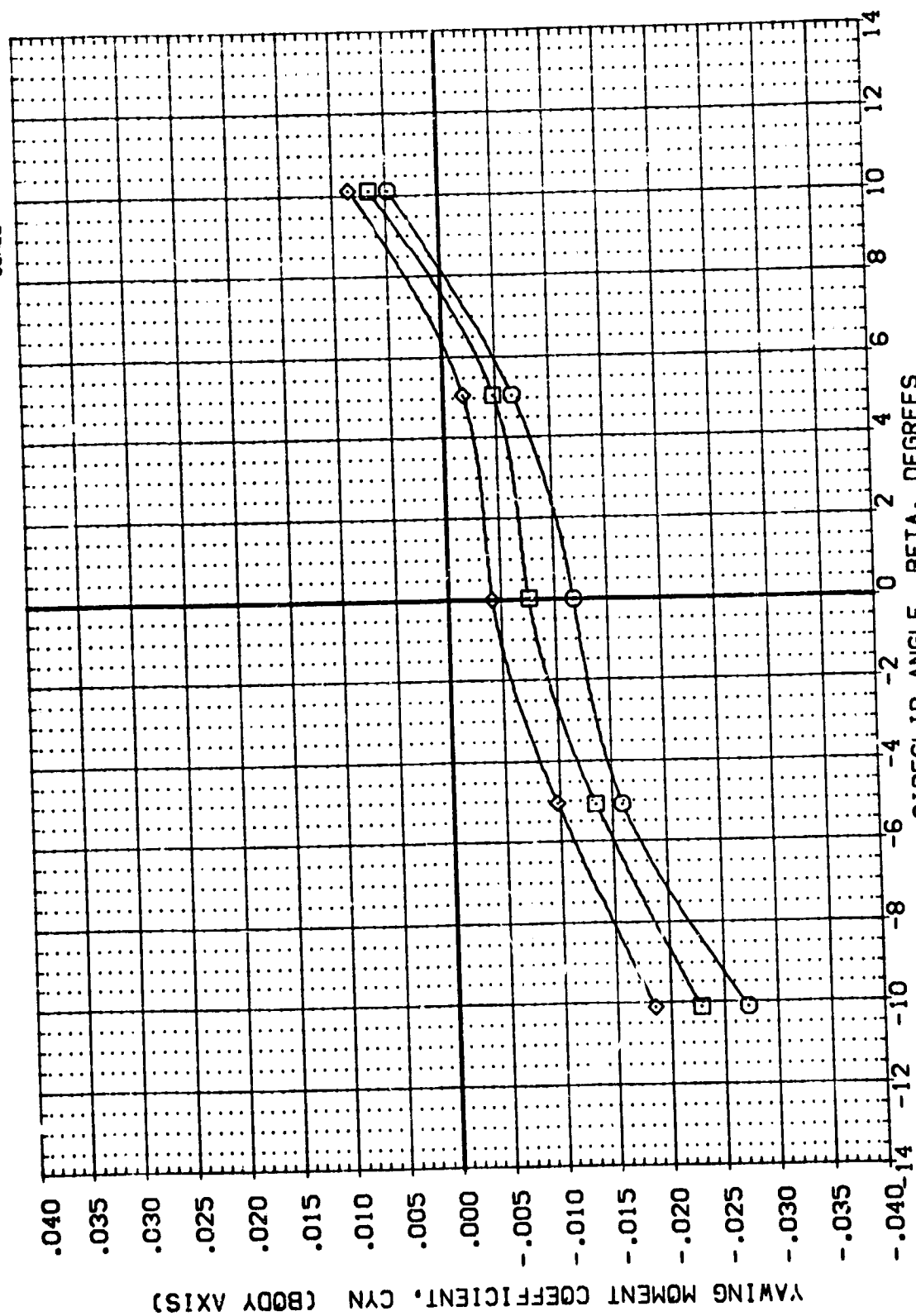


FIGURE 73 RUDDER EFFECTIVENESS WITH SPOBRK = 85 AND ALPHA = 20

(A)MACH = .26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

RC0039	0A21	B17C7	M4FS	V107E23V7R6X9
RC0043	0A21	B17C7	M4FS	V107E23V7R6X9
RC0047	0A21	B17C7	M4FS	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.1119	SC.FT.
LREF	19.2289	INCHES
BREF	37.9359	INCHES
XPRP	43.5974	INCHES
YPRP	10.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	

ALPHA 20.000  
20.000  
20.000

AILERON .000  
.000  
.000

RUDDER .000  
-7.500  
-15.000

SPDBRK 85.000  
85.000  
85.000

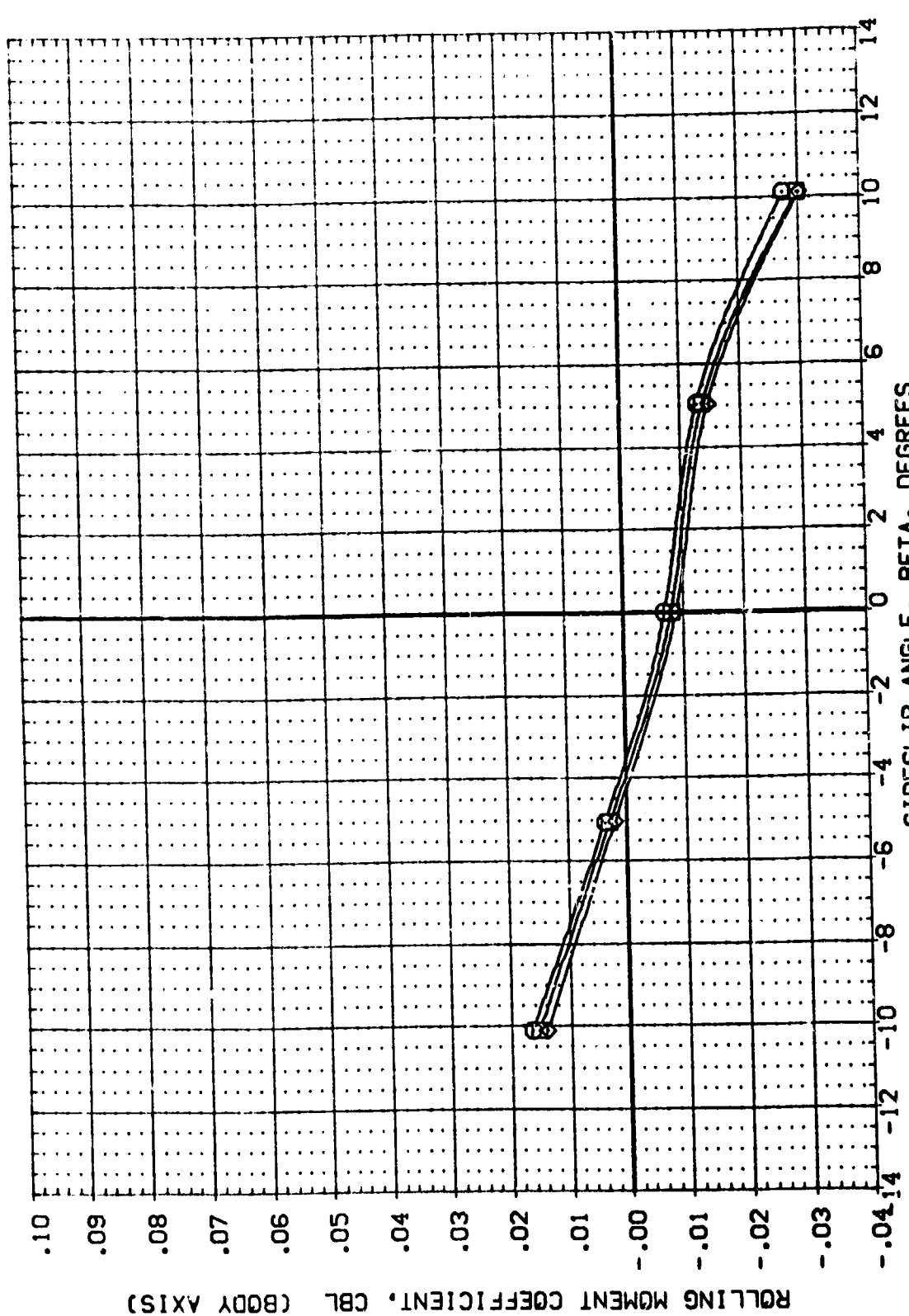


FIGURE 73 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 20

(A)MACH = .26

DATA SET SYMBOL    CONFIGURATION DESCRIPTION    REFERENCE INFORMATION

ROPO39    B17C7    M4F5    V107E23V7R6X9    SREF    4.4119    SQ.FT.

ROPO43    B17C7    M4F5    V107E23V7R6X9    LREF    19.2299    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    BREF    37.9359    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    XMRP    43.5974    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    YMRP    .0000    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    ZMRP    16.2000    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    SCALE    .0405    SCALE

ROPO47    B17C7    M4F5    V107E23V7R6X9    SPDBRK    85.000    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    RUDDER    .000    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    AILRON    .000    INCHES

ROPO47    B17C7    M4F5    V107E23V7R6X9    ALPHA    20.000    DEGREES

ROPO47    B17C7    M4F5    V107E23V7R6X9    ALPHA    20.000    DEGREES

ROPO47    B17C7    M4F5    V107E23V7R6X9    ALPHA    20.000    DEGREES

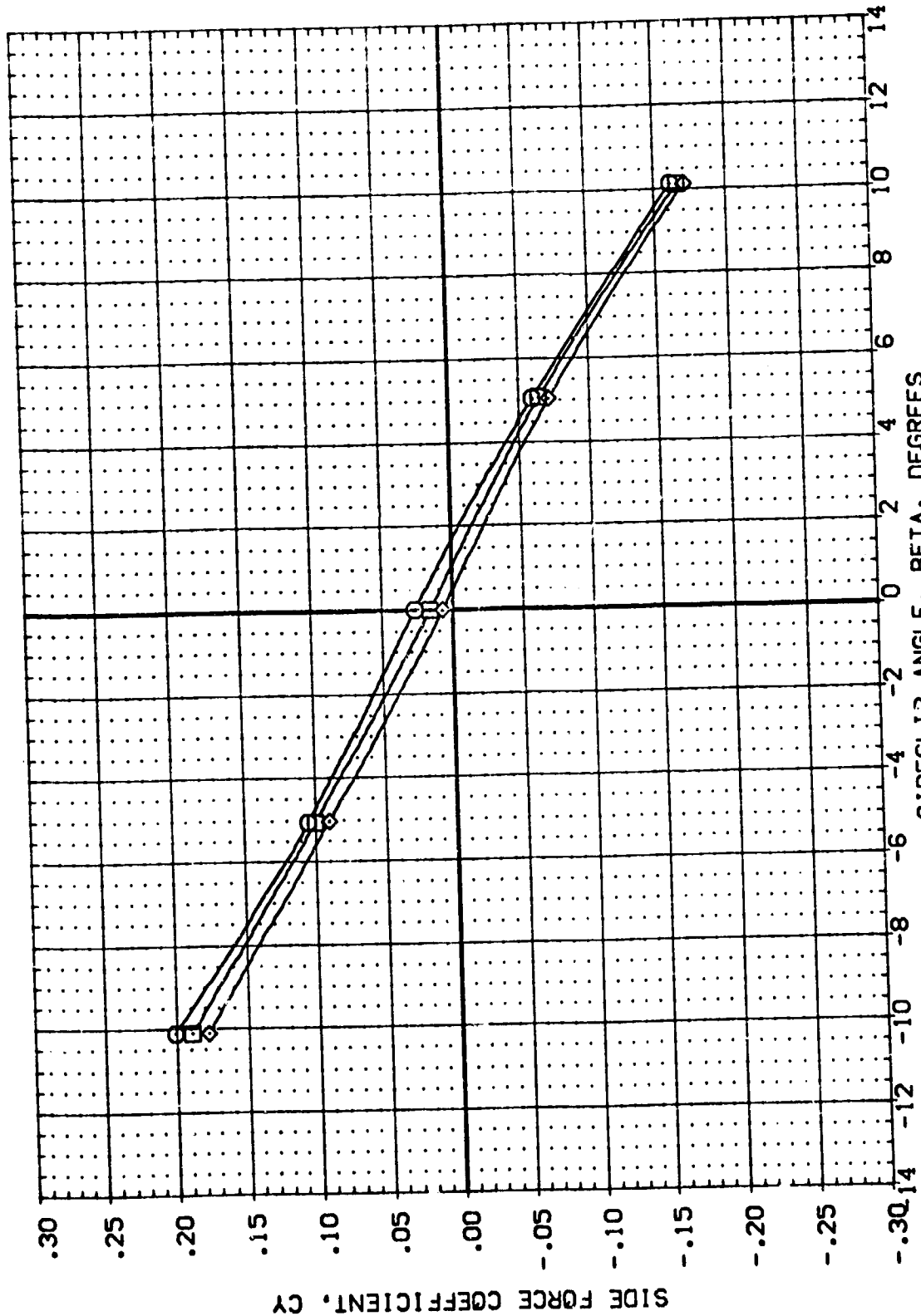


FIGURE 73 RUDDER EFFECTIVENESS WITH SPDBRK = 85 AND ALPHA = 20

(A) MACH = .26



(MDP040)

W107E23V7R6X9

M4F5

B17C7

0A21

PARAMETRIC VALUES  
 MACH .260 BETA .000  
 SDFLAP -18.000 ELEVGN .000  
 AILRON .000 VTLINC .000  
 SPOBRK 05.000 DELRLO -7.500

SYMBOL MAXRLO  
 -7.500  
 -15.000

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5574 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

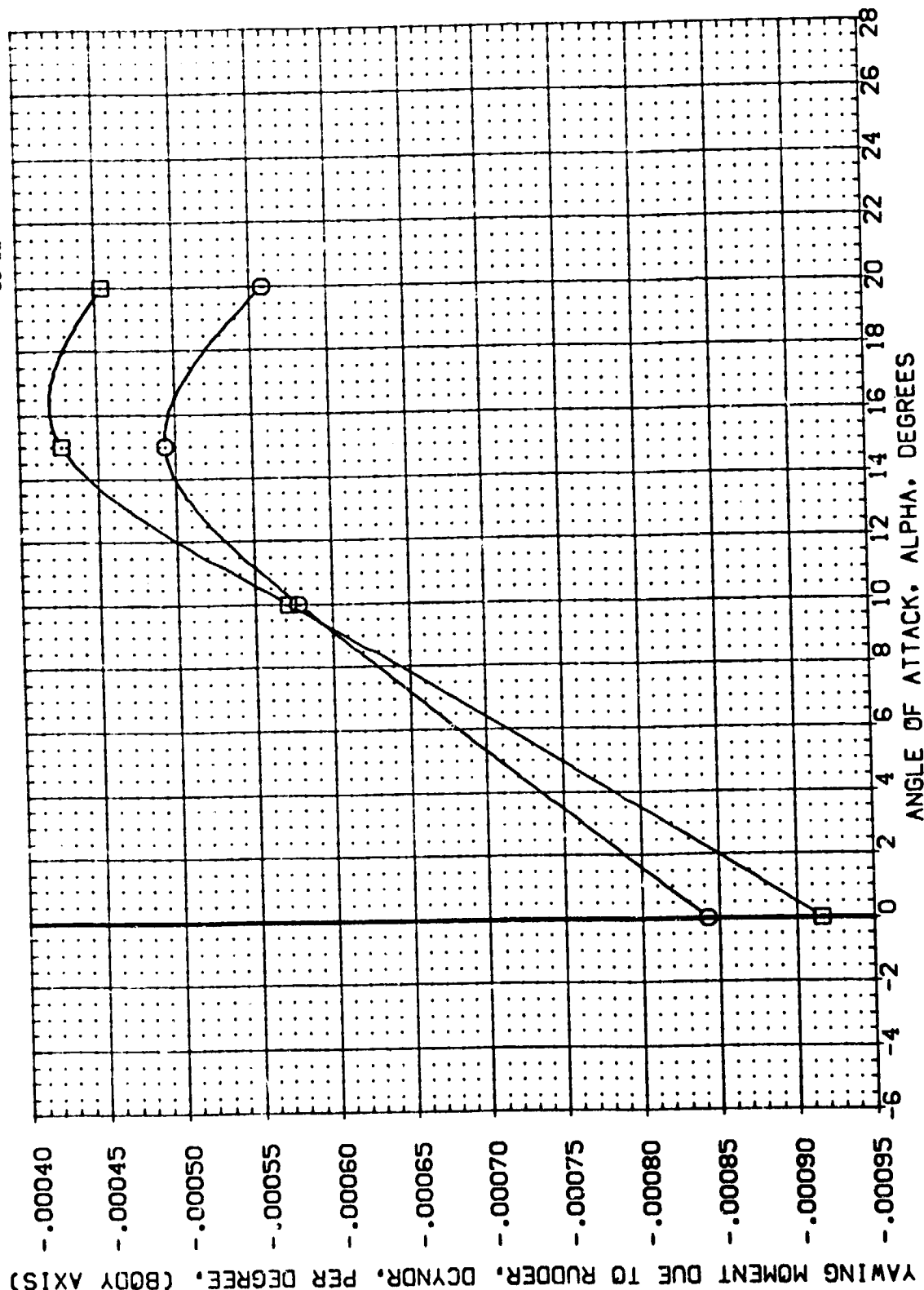


FIGURE 74 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPOBRK = 85

(MDP040)

GA21 B17C7 M4F5 W107E23V7R6X9

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 19.2299 INCHES  
 BREF 37.9359 INCHES  
 XMRP 43.5974 INCHES  
 YMRP .0000 INCHES  
 ZMRP 16.2000 INCHES  
 SCALE .0405

PARAMETRIC VALUES  
 .260 BETA .000  
 -18.000 ELEVON .000  
 .000 VTLINC .000  
 85.000 DELRLO -7.500

MAXRLO MACH  
 -7.500  
 -15.000 BOFLAP  
 AILRON  
 SPOBRK

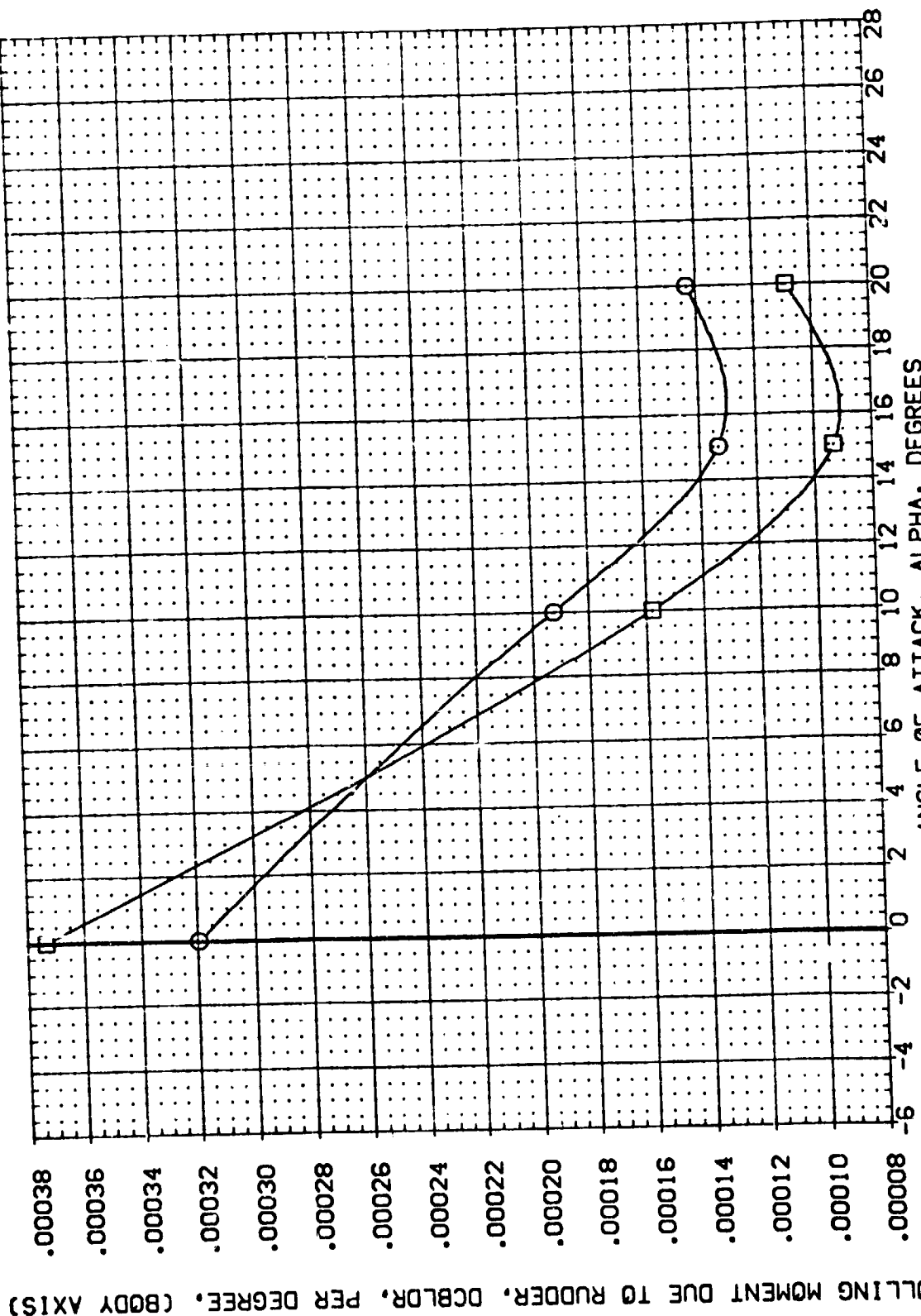


FIGURE 74 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPOBRK = 85  
 PAGE 513

(MDP040)

W107E23V7R6X9

M4F5

B17C7

0A21

REFERENCE INFORMATION  
 SREF 4.4119 SQ.FT.  
 LREF 15.2299 INCHES  
 BREF 37.9359 INCHES  
 XPRP 43.5974 INCHES  
 YPRP .0000 INCHES  
 ZPRP 16.2000 INCHES  
 SCALE .0405

PARAMETRIC VALUES  
 .260 BETA  
 -18.000 ELEVON  
 .000 VTLINE  
 85.000 DELRUO  
 -7.500

SYMBOL  
 MACH  
 BOFLAP  
 AILRON  
 SPDBRK  
 MAXRO  
 -7.500  
 -15.000  
 -15.000  
 85.000  
 -7.500

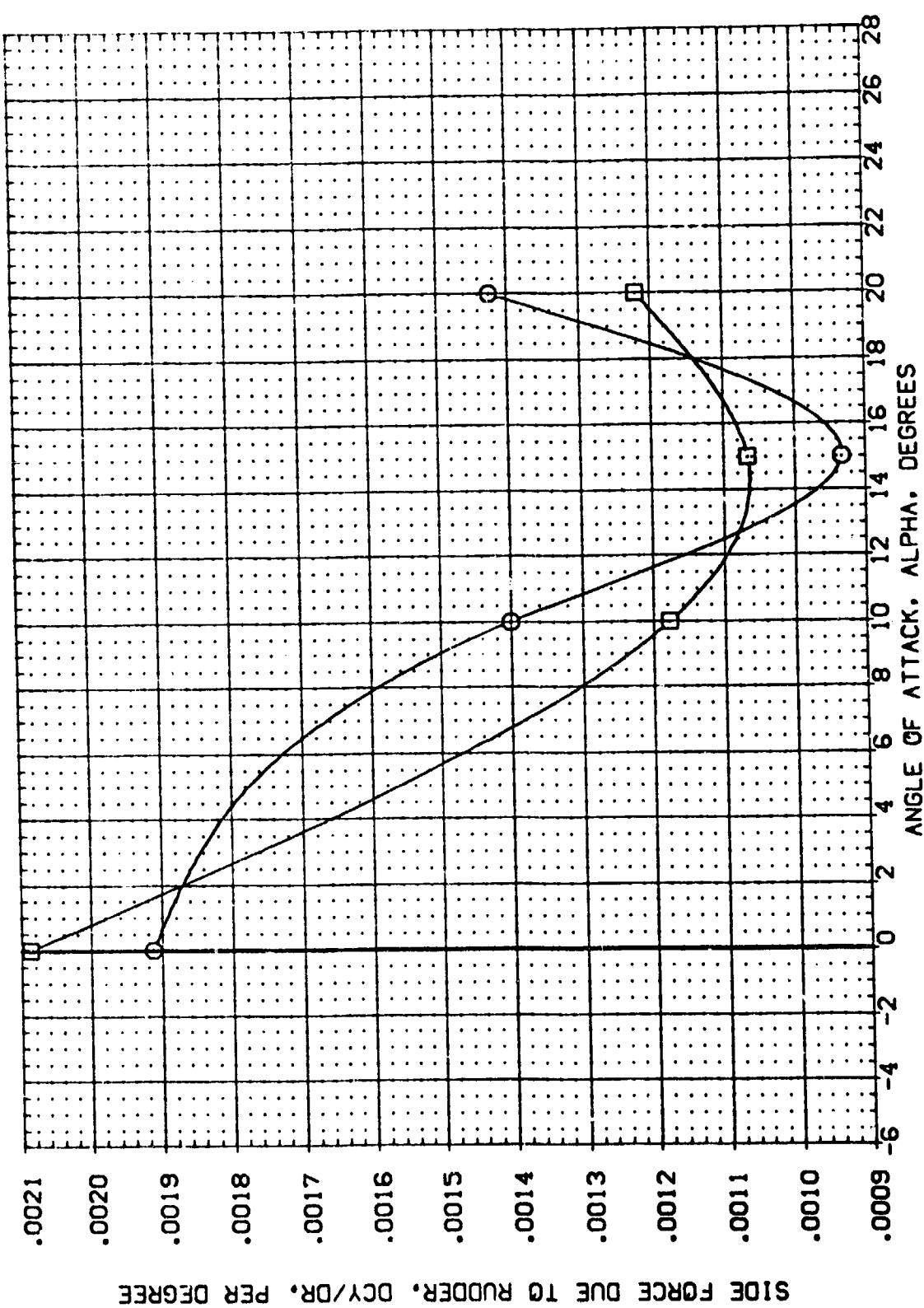


FIGURE 74 VARIATION OF RUDDER CONTROL DERIVATIVES WITH ALPHA FOR SPDBRK = 85

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDER	SPOILER	REFERENCE INFORMATION
(RPO10)	DA21 B17C7 MAFS V107E23V7R6X9	.000	.000	.000	.000	SREF 4.4119 SQ.FT.
(RPO11)	DA21 B17C7 MAFS V107E23V7R6X9	10.000	.000	.000	.000	LREF 19.2299 INCHES
(RPO12)	DA21 B17C7 MAFS V107E23V7R6X9	15.000	.000	.000	.000	BREF 37.9359 INCHES
(RPO13)	DA21 B17C7 MAFS V107E23V7R6X9	20.000	.000	.000	.000	XMRP 43.5974 INCHES
						YMRP 16.2000 INCHES
						SCALE .0405

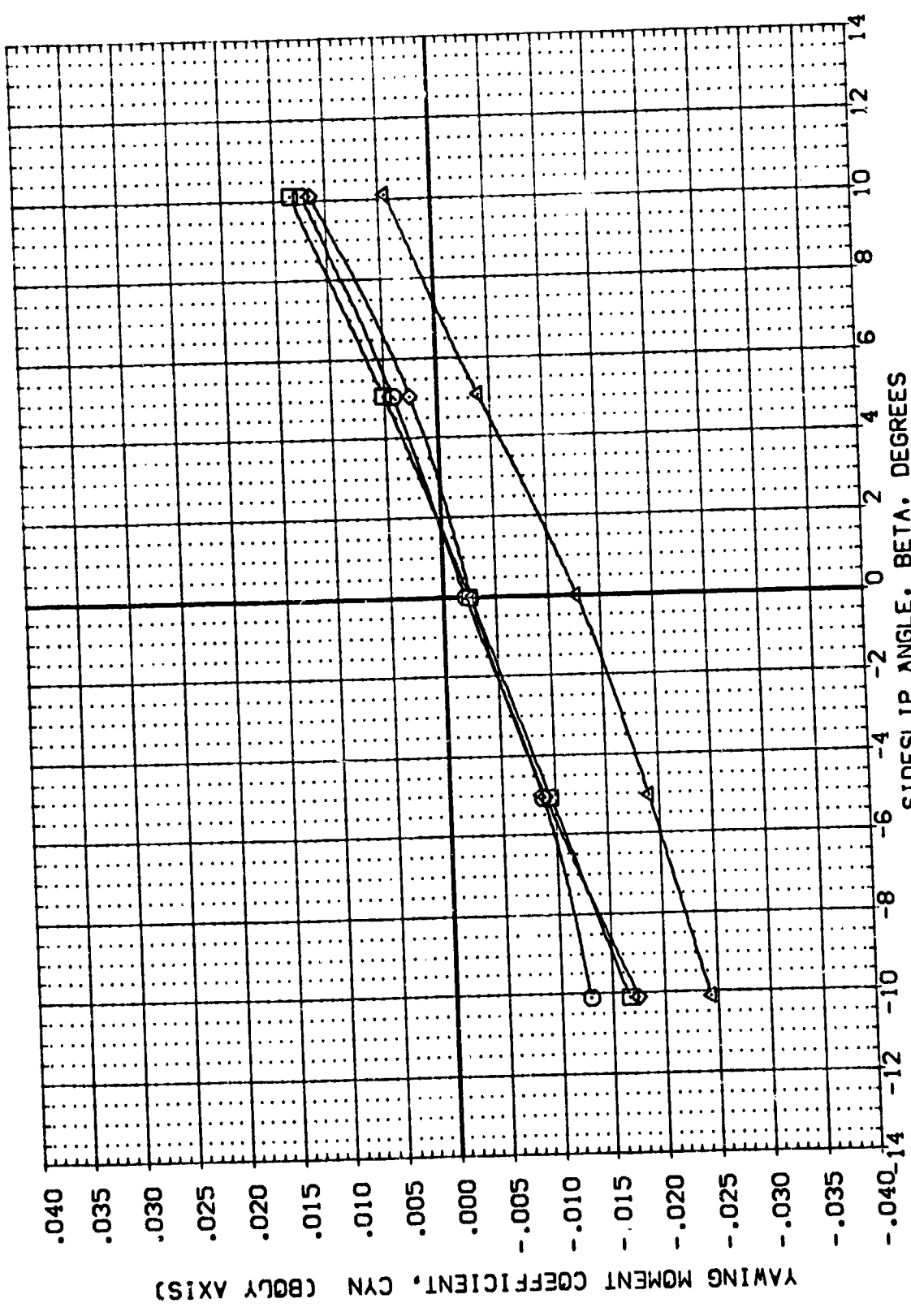


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 0 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[R0P010]	0A21	617C7	M4F5	SREF	4.4118
[R0P011]	0A21	817C7	M4F5	LREF	19.2298
[R0P012]	0A21	817C7	M4F5	BREF	37.9359
[R0P013]	0A21	817C7	M4F5	XGRP	43.5574
				YGRP	.0000
				ZGRP	.0000
				SCALE	16.2000
					.0405
					SCALE

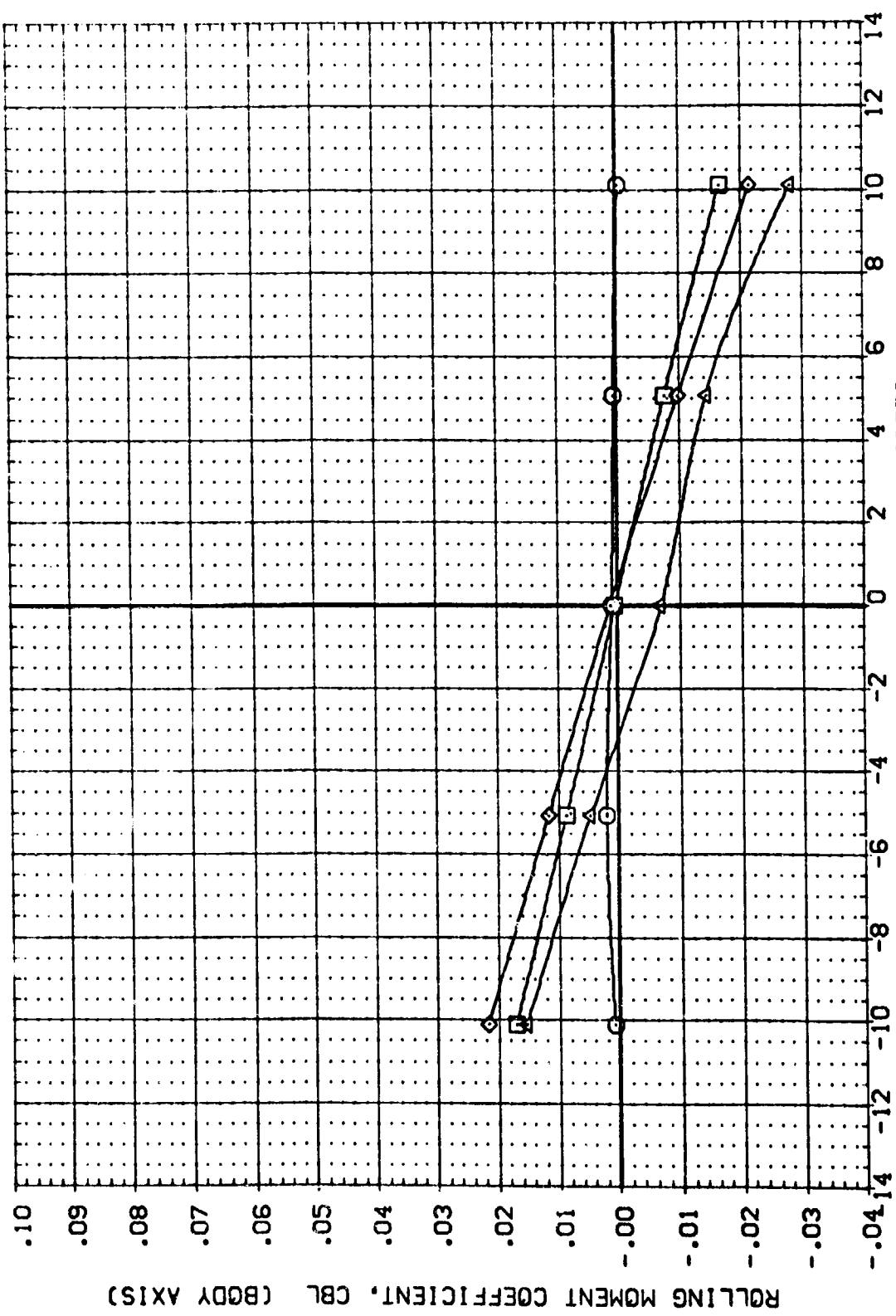


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 0 DEG. SPEED BRAKE DEFLECTION

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		SPOBRK		RUDDER		AILRPN		ALPHA	
(RPO10)	□	0A21	B17C7	M4F5	V107E23V7R6X9	SREF	.000	.000	.000	.000	.000	.000	
(RPO11)	□	0A21	B17C7	M4F5	V107E23V7R6X9	LREF	.000	.000	.000	.000	.000	10.000	
(RPO12)	□	0A21	B17C7	M4F5	V107E23V7R6X9	BREF	.000	.000	.000	.000	.000	15.000	
(RPO13)	□	0A21	B17C7	M4F5	V107E23V7R6X9	XMRP	.000	.000	.000	.000	.000	20.000	
						YMRP	.000	.000	.000	.000	.000		
						ZMRP	.000	.000	.000	.000	.000		
						SCALE	.0405	.0405	.0405	.0405	.0405		

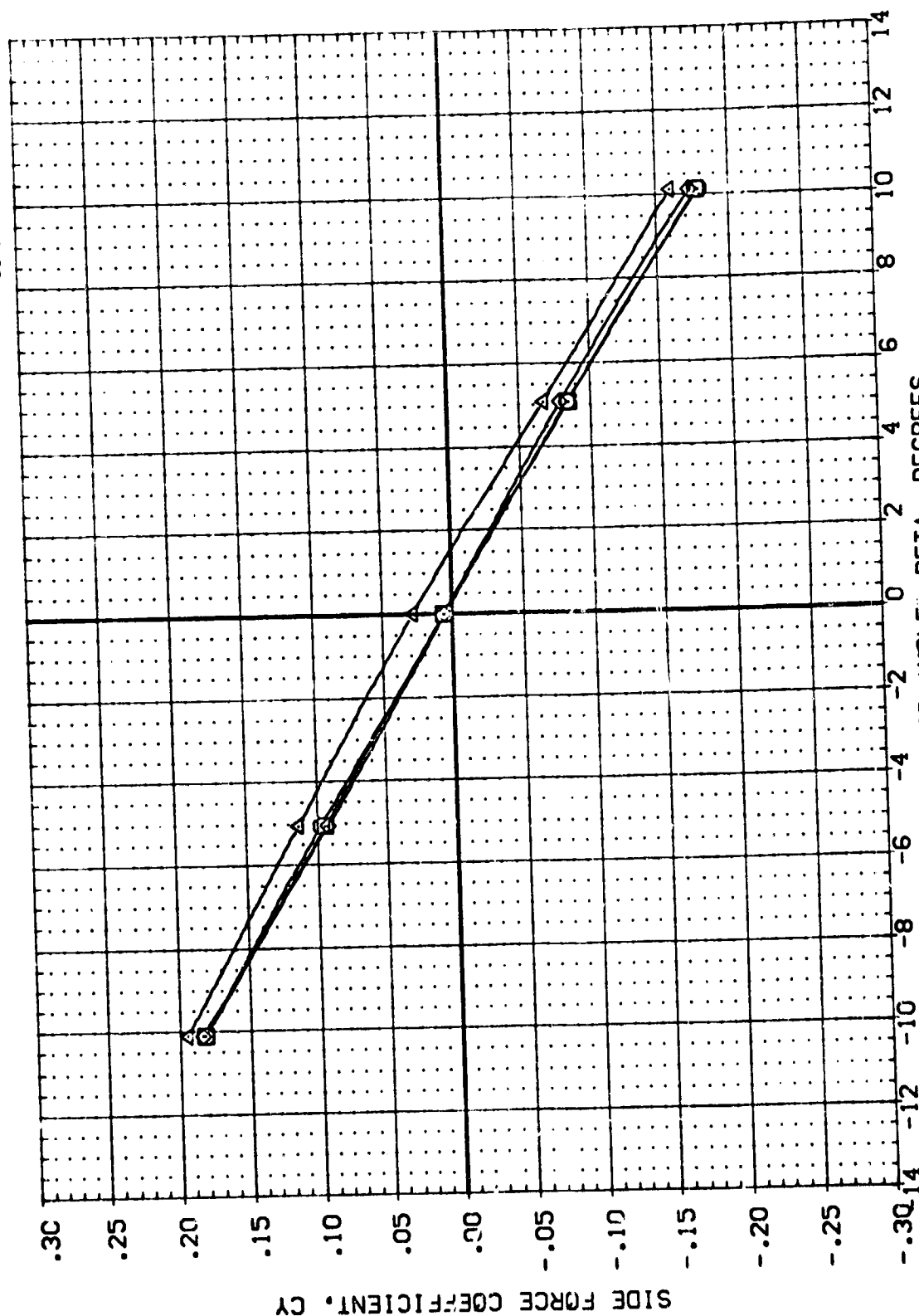


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 0 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26

(JDP010)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	BOFLAP	AILRON	RUDER	PARAMETRIC VALUES	.000	DATASET	ALPHA	DATA SOURCE	DATASET	ALPHA	SREF	REFERENCE INFORMATION
○	.260	-18.000	.000	.000	-LEVON	.000	JDP010	15.000	.000	JDP011	10.000	LREF	4.4119
		.000	.000	.000	VTLINE	.000	JDP012	15.000	.000	JDP013	20.000	BREF	19.2299
		.000	.000	.000	SPDBRK	.000						XMRP	37.9959
												YMRP	43.5974
												ZMRP	.0000
												SCALE	16.2000
													INCHES
													INCHES
													INCHES
													SCALE
													.0405

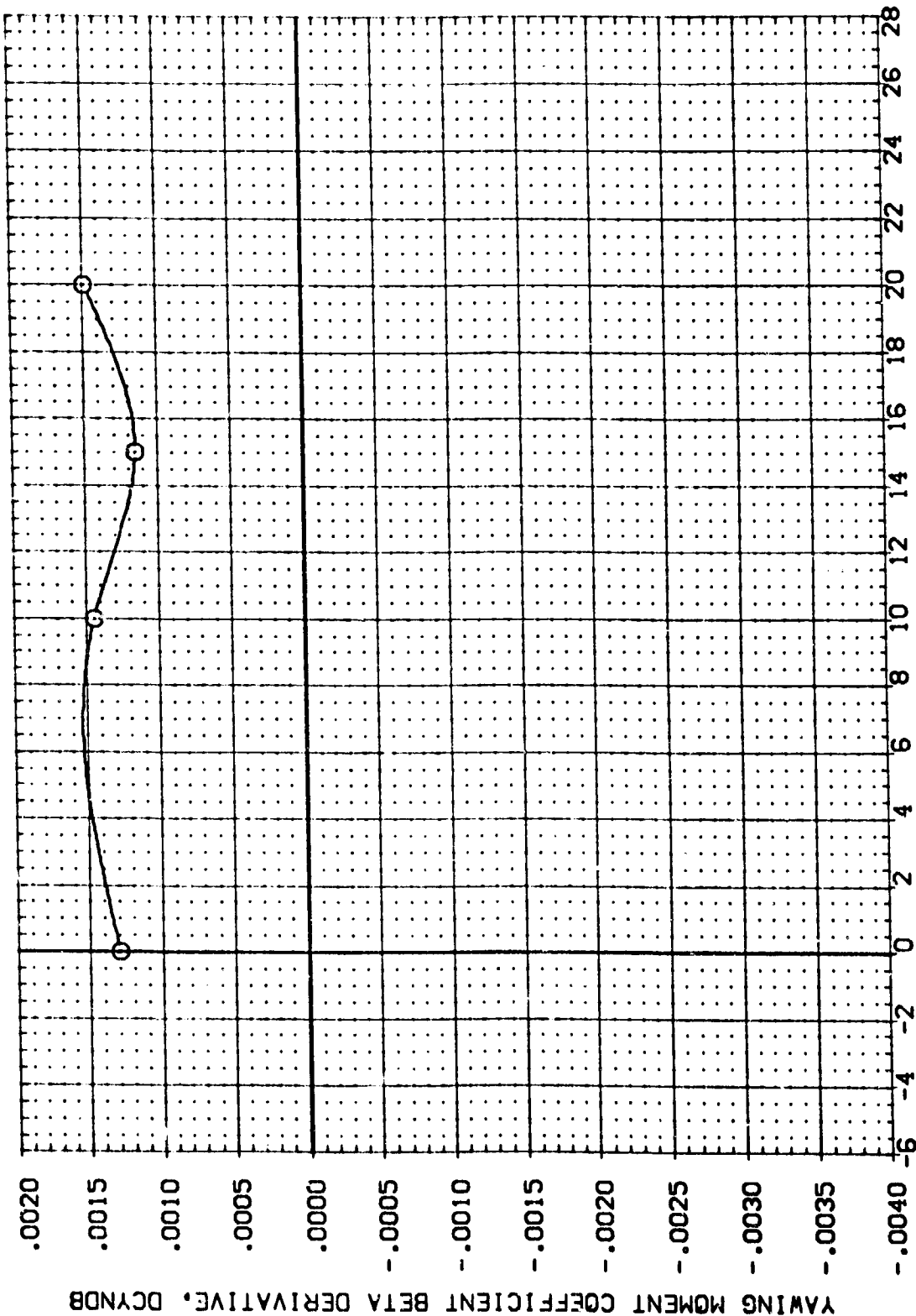


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 0 DEG. SPEED BRAKE DEFLECTION



(JDP010)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	BOFLAP	AILLON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ALPHA	REF	REFERENCE INFORMATION
○	.260	-18.000	.000	.000	ELEVON	ALPHA	JDP011	10.000	SREF	4.4119
		VT,INC	.000	.000	VT,INC	ALPHA	JDP012	20.000	LREF	19.2299
		SPDRK	.000	.000	SPDRK	ALPHA	JDP013	15.000	BREF	37.9359
						ALPHA			XMRP	43.5974
									YMRP	.0000
									ZMRP	16.2000
									SCALE	.0405

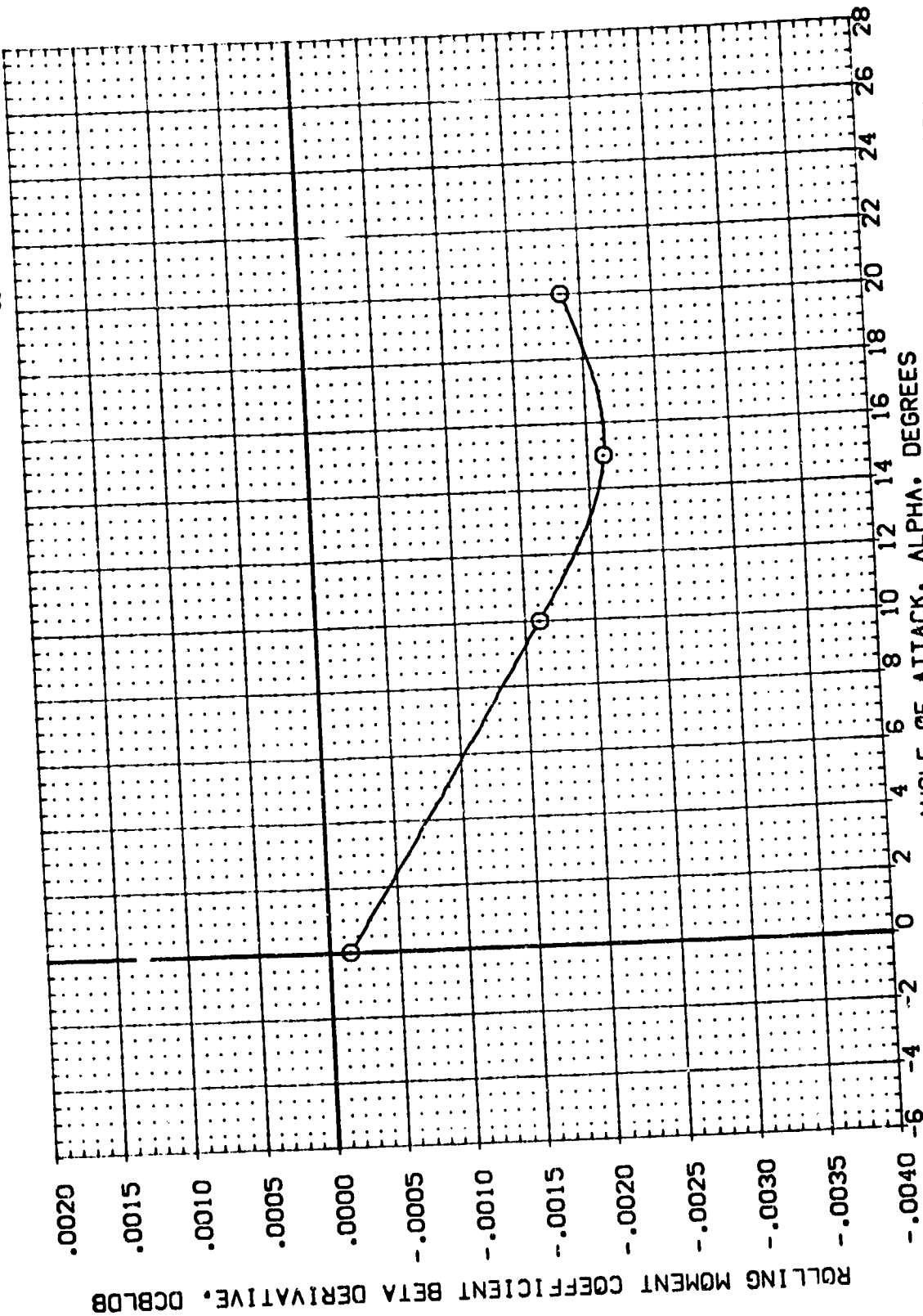


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 0 DEG. SPEED BRAKE DEFLECTION



(JDP010)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	PARAMETRIC VALUES			DATA SOURCE		DATASET		ALPHA		SREF		REFERENCE INFORMATION			
		BOFLAP	ELEVON	VTLIN	ALPHA	ALPHA	JDP010	JDP012	10.000	20.000	LREF	LREF	SO.FT.	INCHES	INCHES	INCHES
○	.260	AILRON	.000	.000	.000	.000	.000	.000	.000	.000	37.935	37.935	4.4119	19.2298	37.935	43.5874
		RUDER	.000	.000	.000	.000	.000	.000	.000	.000	YMRP	YMRP	16.2000	16.2000	16.2000	16.2000
											SCALE	SCALE				

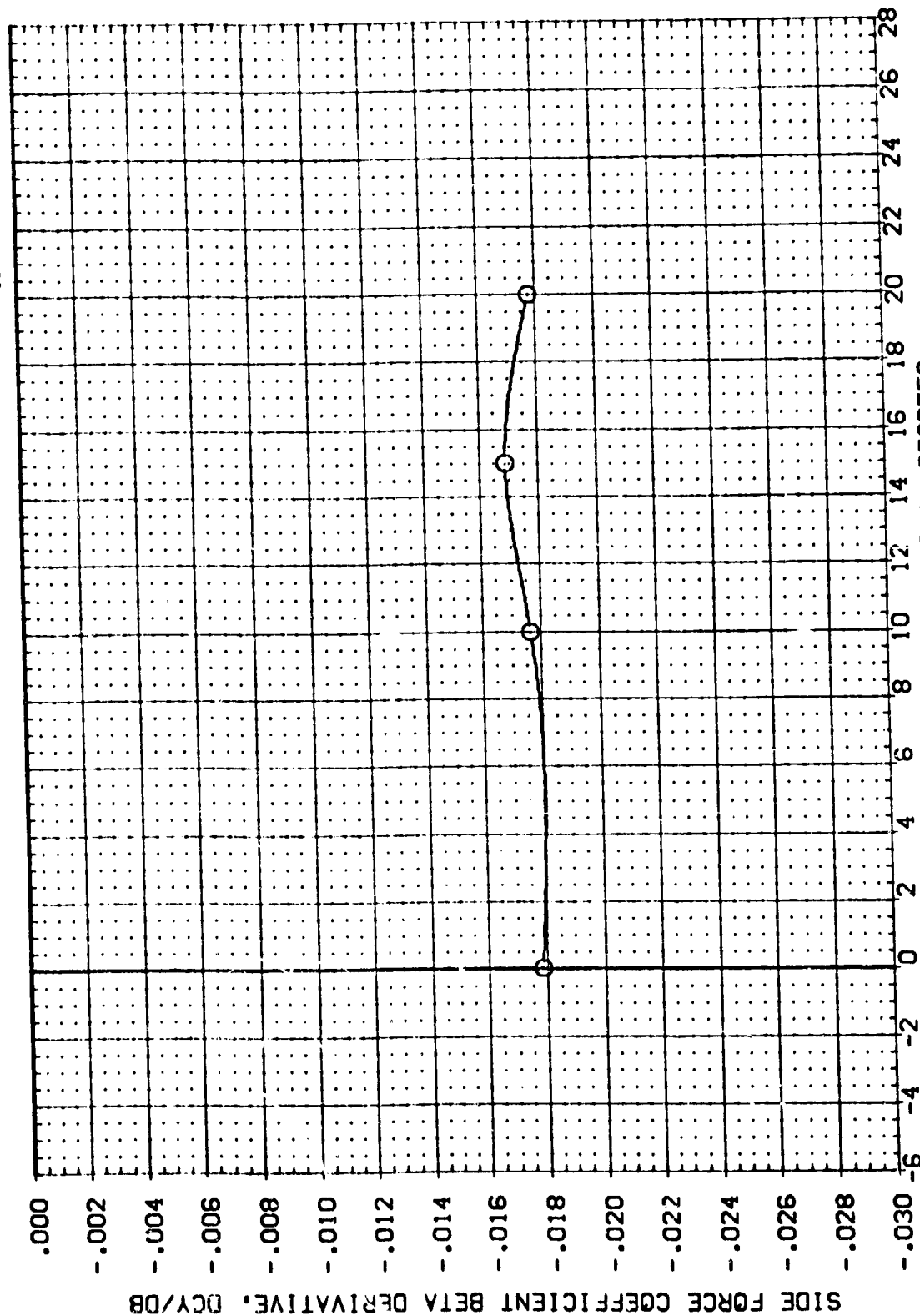


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 0 DEG. SPEED BRAKE DEFLECTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	RUDDER	SPDBRK	REFERENCE INFORMATION
(R0023)	0A21 B17C7 MAFS V107E23V7R6X9	.000	.000	.000	25.000	SREF 4.4119 SQ.FT.
(R0024)	0A21 B17C7 MAFS V107E23V7R6X9	10.000	.000	.000	25.000	LREF 19.2299 INCHES
(R0025)	0A21 B17C7 MAFS V107E23V7R6X9	15.000	.000	.000	25.000	BREF 37.9359 INCHES
(R0026)	0A21 B17C7 MAFS V107E23V7R6X9	20.000	.000	.000	25.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

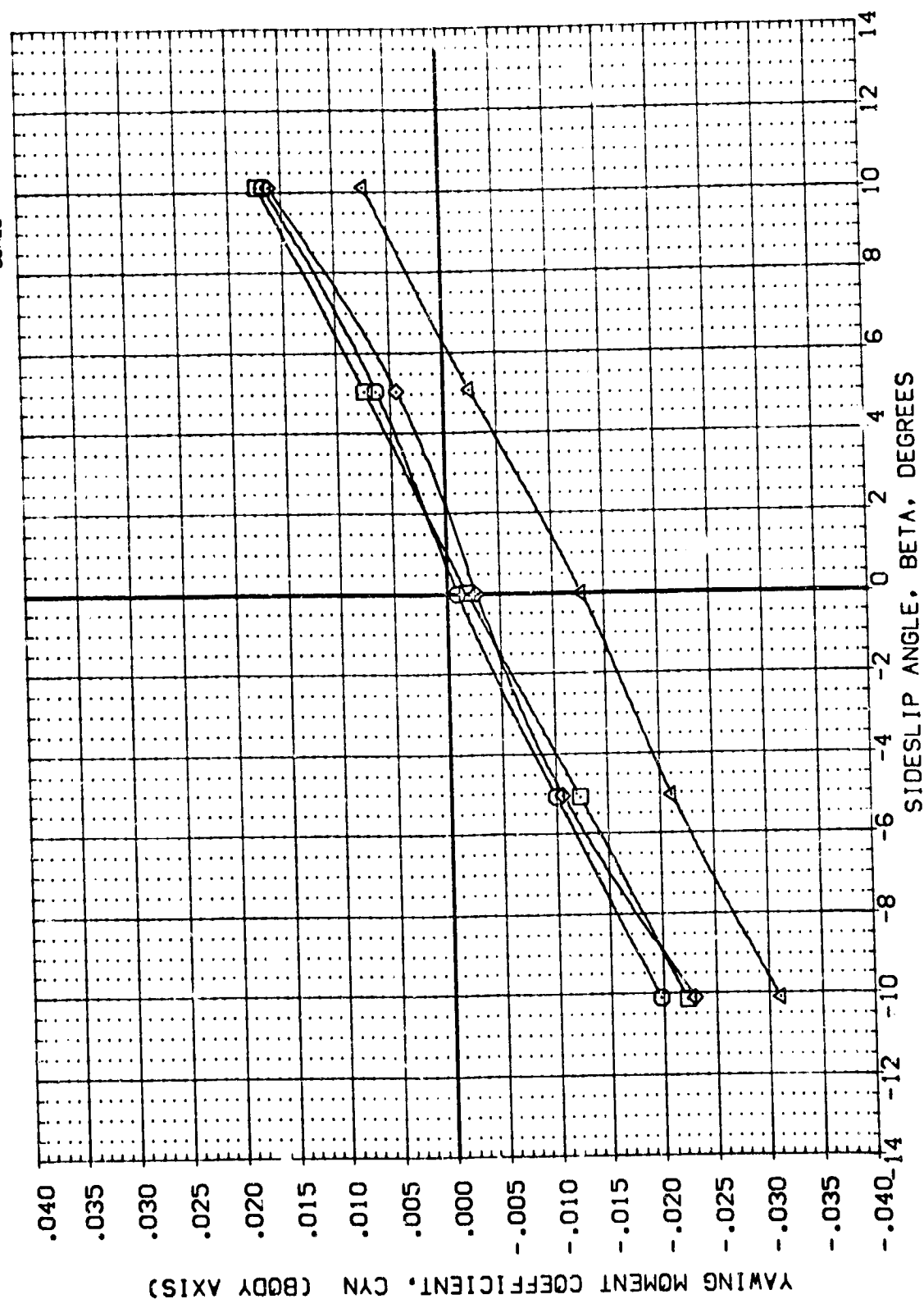


FIGURE 76 LATERAL DIRECTIONAL EFFECTS WITH 25 DEG. SPEED BRAKE DEFLECTION

(A) MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	RUDDER	SPOBRK	REFERENCE INFORMATION
(RPO23)	CA21 B17C7 M4F5 V107E23V/TRGX9	.000	.000	.000	25.000	SREF 4.4119 SQ.FT.
(RPO24)	CA21 B17C7 M4F5 V107E23V/TRGX9	.000	.000	.000	25.000	LREF 19.2289 INCHES
(RPO25)	CA21 B17C7 M4F5 V107E23V/TRGX9	.000	.000	.000	25.000	BREF 37.9359 INCHES
(RPO26)	CA21 B17C7 M4F5 V107E23V/TRGX9	.000	.000	.000	25.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

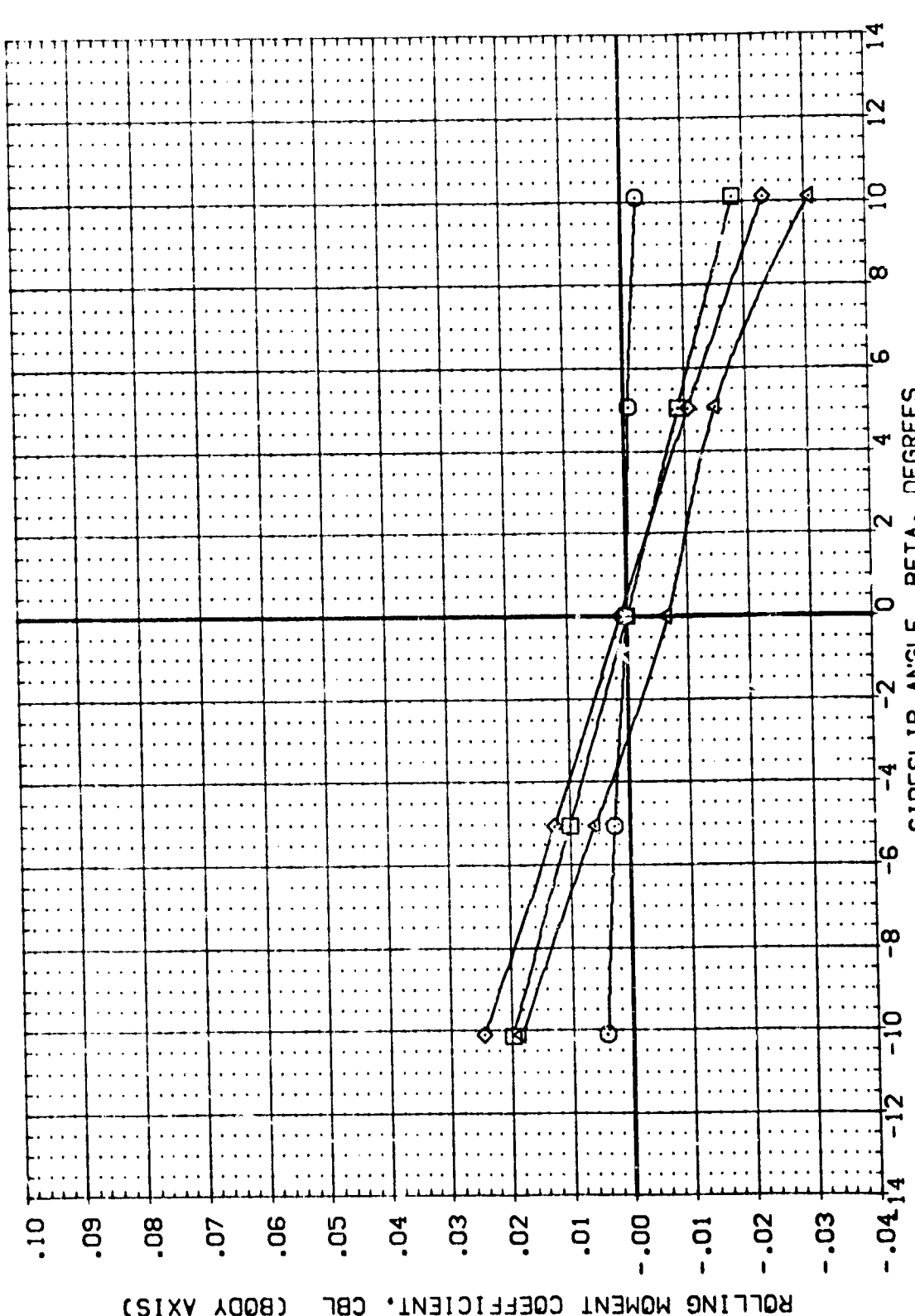


FIGURE 76 LATERAL DIRECTIONAL EFFECTS WITH 25 DEG. SPEED BRAKE DEFLECTION  
 (A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPUBRK	REFERENCE INFORMATION
(RPO23)	DA21 B17C7 M4FS V107E23V7R6X9	.000	.000	.000	25.000	SEEF 4.4119 SO.FT. INCHES
(RPO24)	DA21 B17C7 M4FS V107E23V7R6X9	10.000	.000	.000	25.000	UREP 19.2298 INCHES
(RPO25)	DA21 B17C7 M4FS V107E23V7R6X9	15.000	.000	.000	25.000	BREF 37.9359 INCHES
(RPO26)	DA21 B17C7 M4FS V107E23V7R6X9	20.000	.000	.000	25.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

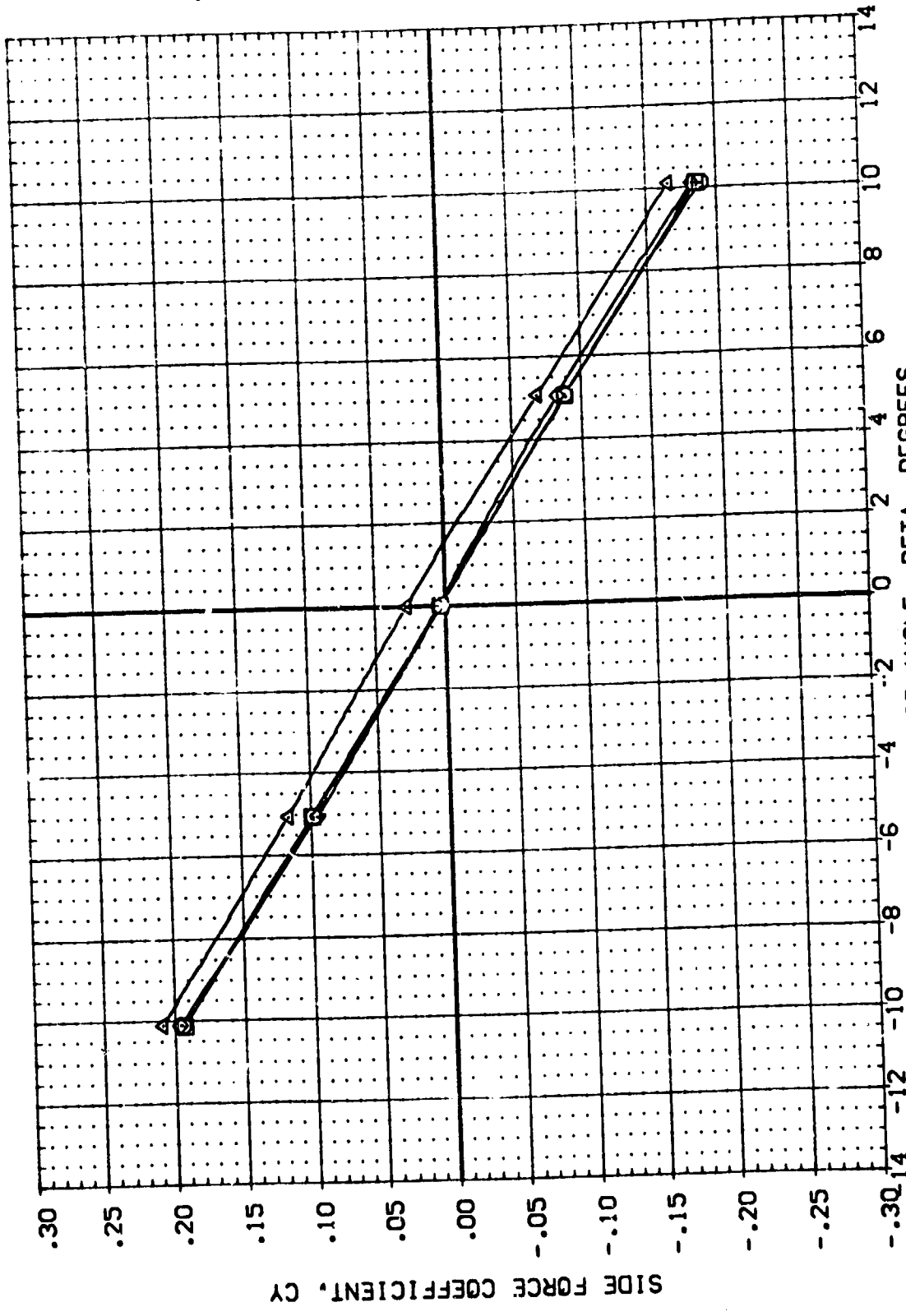


FIGURE 75 LATERAL DIRECTIONAL EFFECTS WITH 25 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26

PAGE 523

(JDP023)

W107E23V7R6X9

M4F5

B17C7

0A21

SYMBOL

MACH

BDFLAP  
AILRON  
RLODR

PARAMETRIC VALUES  
-18.000 ELEVON  
.000 VTLINC  
.000 SPOBRK

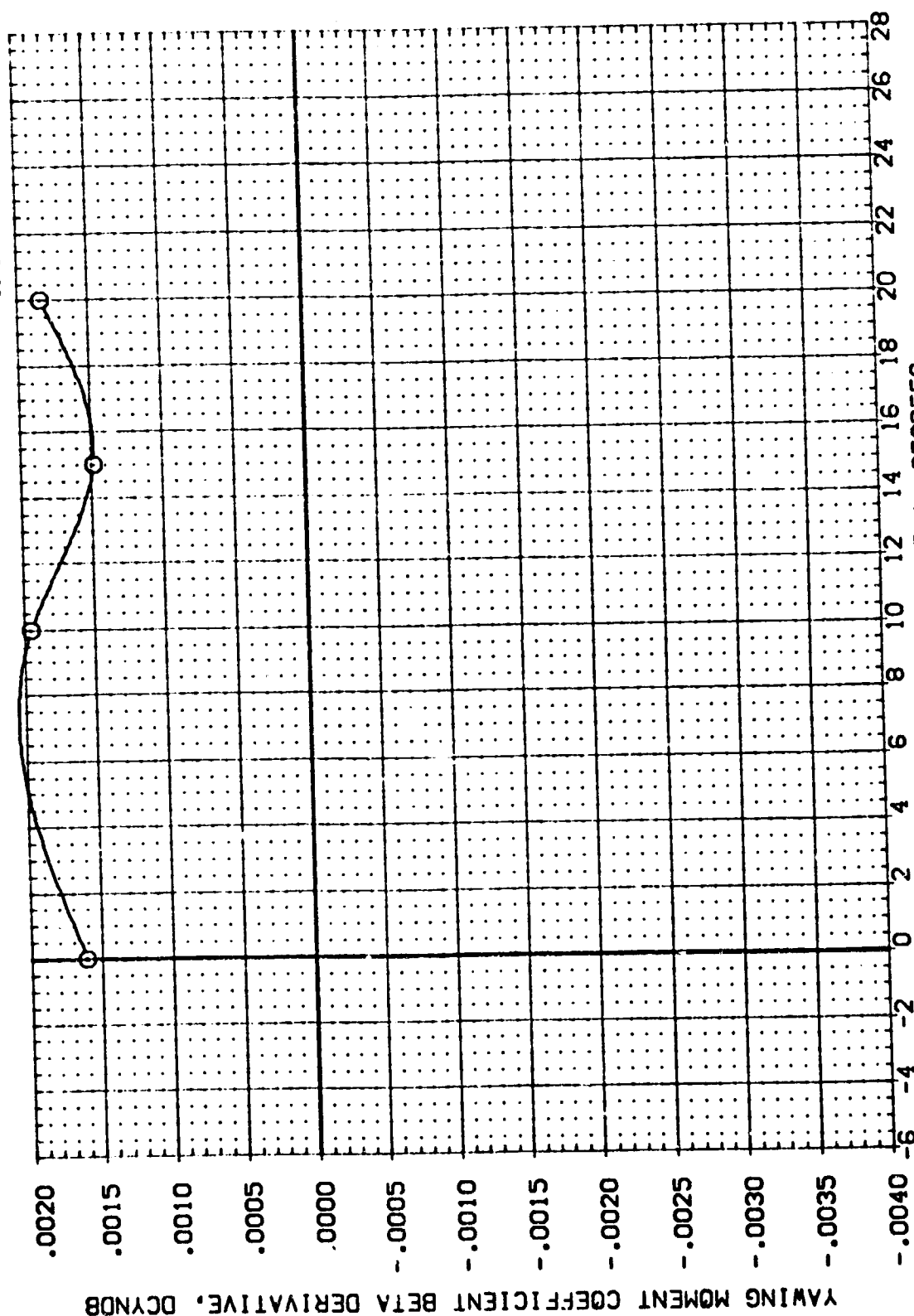
DATA SOURCE  
ALPHA  
0.00  
15.000

.000 DATASET  
.000 JDP023  
25.000 JDP025

ALPHA  
10.000  
20.000

SREF  
LREF  
BREF  
XPRP  
YPRP  
ZPRP  
SCALE

REFERENCE INFORMATION  
4.4119 SQ.FT.  
19.2299 INCHES  
37.9359 INCHES  
43.5974 INCHES  
.0000 INCHES  
16.2000 INCHES  
.0405 SCALE



ANGLE OF ATTACK, ALPHA, DEGREES

FIGURE 76 LATERAL DIRECTIONAL EFFECTS WITH 25 DEG. SPEED BRAKE DEFLECTION

(JDP023)

QA2: B17C7 M4F5 W107E23V7R6X9

SYMBOL MACH  
O .260

BOFLAP  
AILRON  
RUDDER

PARAMETRIC VALUES  
-18.000 ELEVON  
.000 VTLLINC  
.000 SPOBRK

.000 DATASET  
.000 JDP023  
25.000 JDP025

DATA SOURCE  
ALPHA  
15.000

DATASET  
JDP024  
JDP026

ALPHA  
10.000  
20.000

REFERENCE INFORMATION  
SREF  
LREF  
BREF  
XPRP  
YPRP  
ZPRP  
SCALE

4.4119  
19.2298  
37.9359  
43.5974  
.0000  
16.2000  
.0405

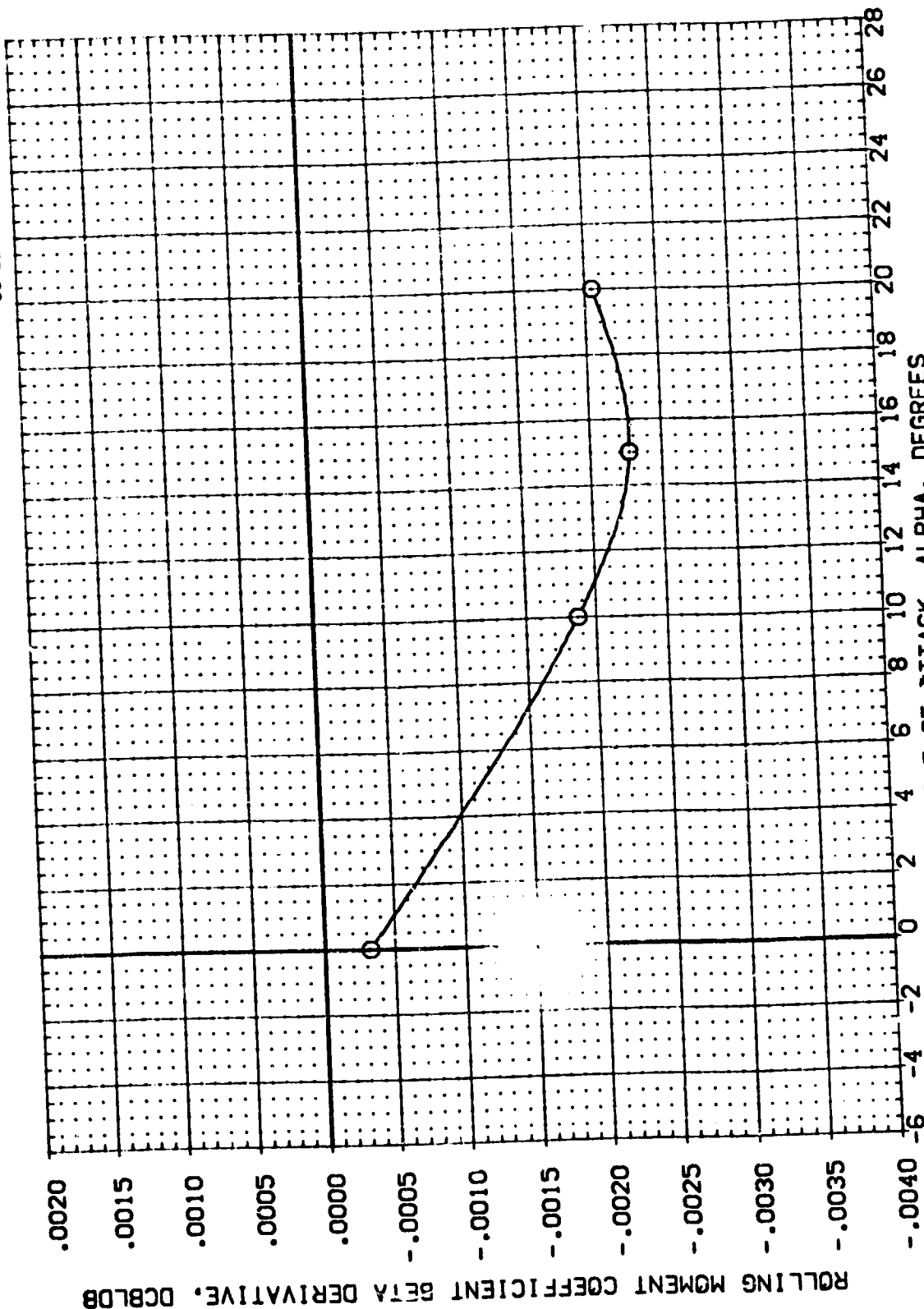


FIGURE 76 LATERAL DIRECTIONAL EFFECTS WITH 25 DEG. SPEED BRAKE DEFLECTION

0A21 B17C7 M4F5 W107E23V7R6X9 (JDP023)

SYMBOL	MACH	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
		BOFLAP	ELEVON	VTI INC	ALPHA	DATASET	ALPHA	SREF	LREF	SO.FT.	
O	.265	.000	.000	.000	.000	JDP023	10.000	19.2299	37.9359	INCHES	
		.000	.000	.000	15.000	JDP026	20.000	43.5974	16.2000	INCHES	
		.000	.000	.000				YMRP	0.000	INCHES	
		.000	.000	.000				ZMRP	0.000	INCHES	
		.000	.000	.000				SCALE	.0405	SCALE	

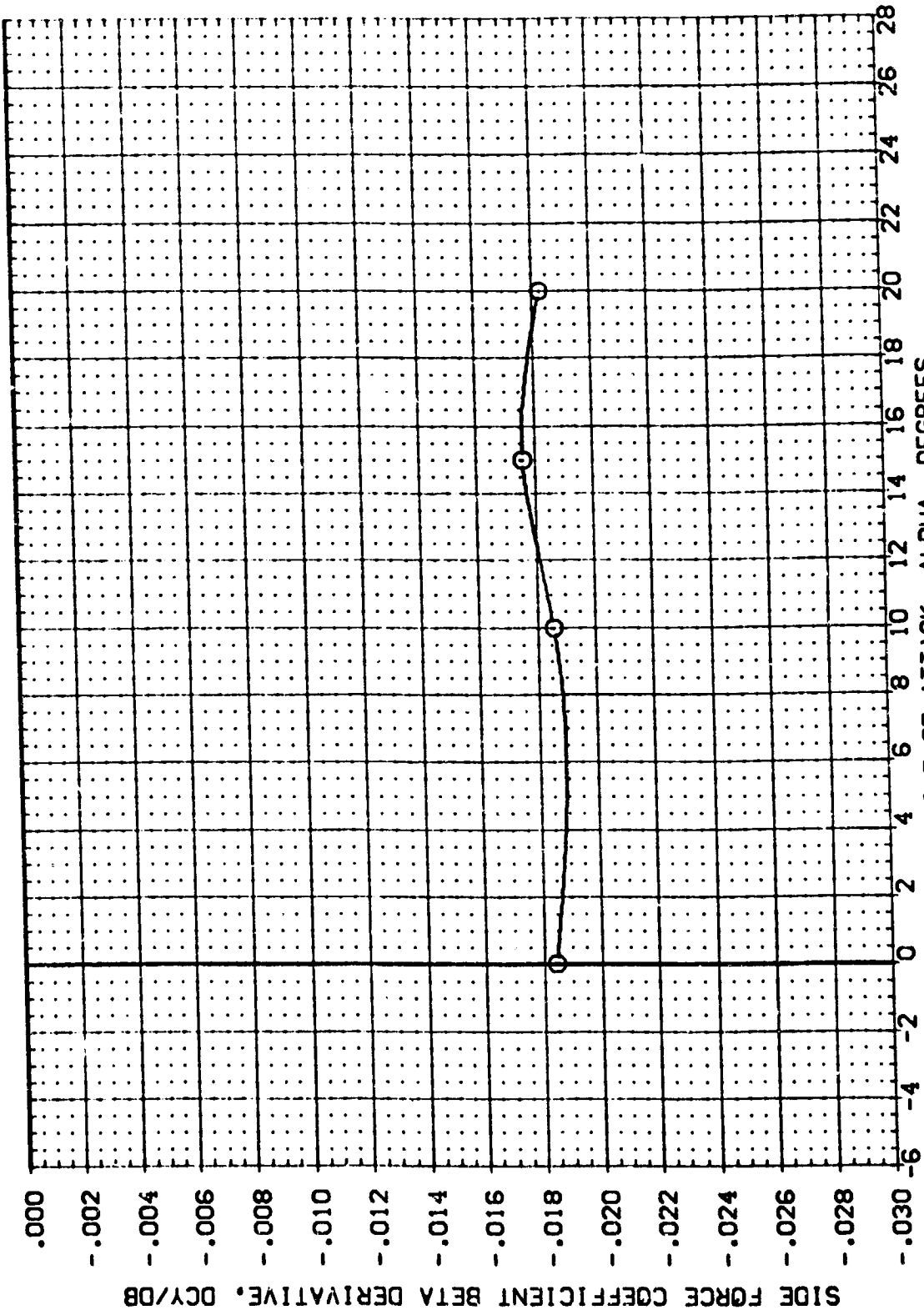


FIGURE 76 LATERAL DIRECTIONAL EFFECTS WITH 25 DEG. SPEED BRAKE DEFLECTION

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(RPO02)	CA21 B17C7 M4FS V107E23V7R6X9
(RPO03)	CA21 B17C7 M4FS V107E23V7R6X9
(RPO04)	CA21 B17C7 M4FS V107E23V7R6X9
(RPO05)	CA21 B17C7 M4FS V107E23V7R6X9

REFERENCE INFORMATION

REFERENCE INFORMATION	SO. FT.
SREF	4.4119
LREF	19.2299
BREF	37.9359
XMRP	43.5974
YMRP	16.2000
ZMRP	16.2000
SCALE	.0405

ALPHA AILERON RUDDER SPEED-BRK

ALPHA	AILERON	RUDDER	SPEED-BRK
.000	.000	.000	55.000
10.000	.000	.000	55.000
15.000	.000	.000	55.000
20.000	.000	.000	55.000

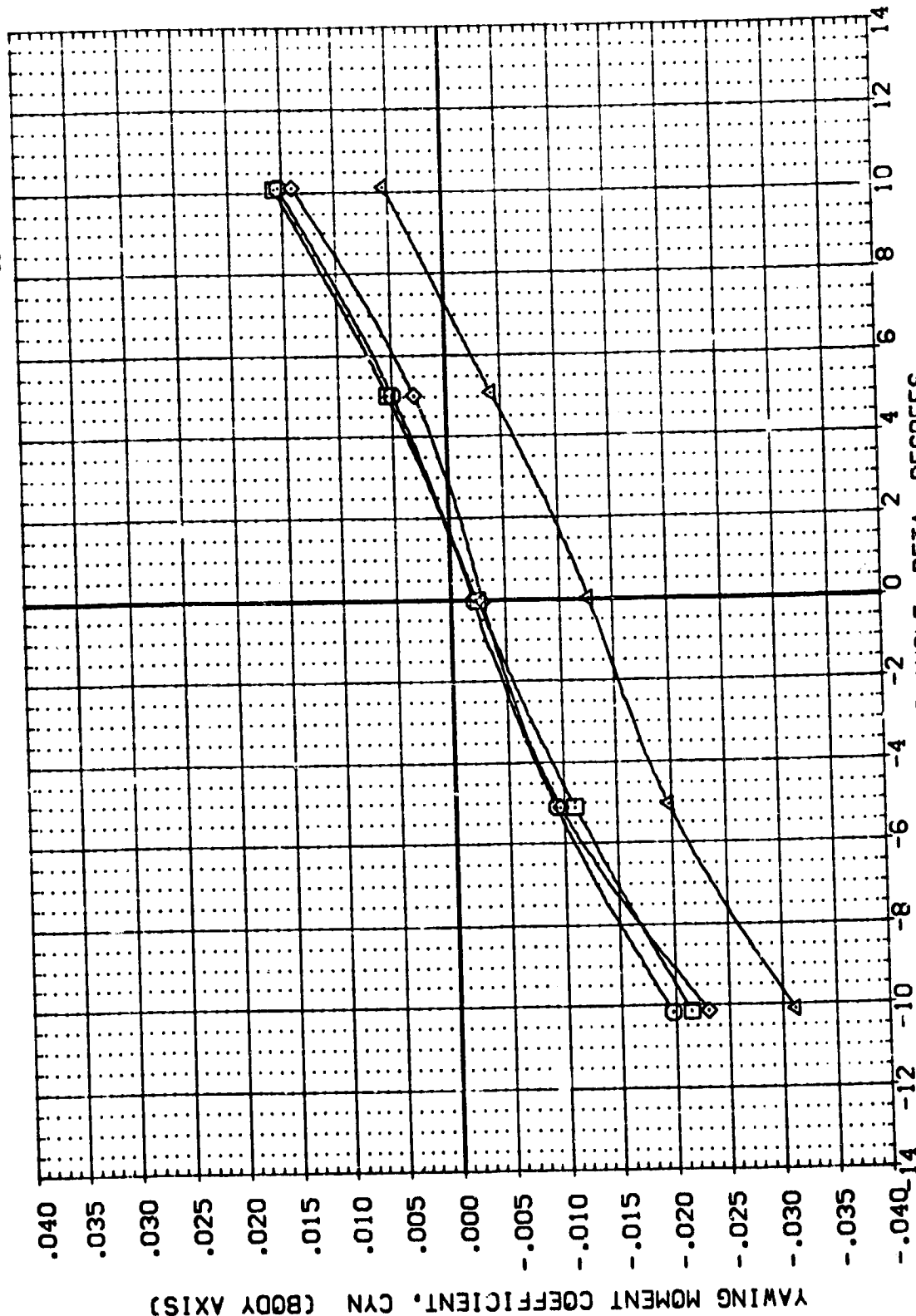


FIGURE 77 LATERAL DIRECTIONAL EFFECTS WITH 55 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLIFT	RUDDER	SPOBRK	REFERENCE INFORMATION
(RPO02)	0A21 B17C7 M4FS V107E23V/TR6X9	.000	.000	.000	55.000	SREF 4.4119 SQ.FT.
(RPO03)	0A21 B17C7 M4FS V107E23V/TR6X9	10.000	.000	.000	55.000	LREF 19.2298 INCHES
(RPO04)	0A21 B17C7 M4FS V107E23V/TR6X9	15.000	.000	.000	55.000	BREF 37.9359 INCHES
(RPO05)	0A21 B17C7 M4FS V107E23V/TR6X9	20.000	.000	.000	55.000	XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405 INCHES

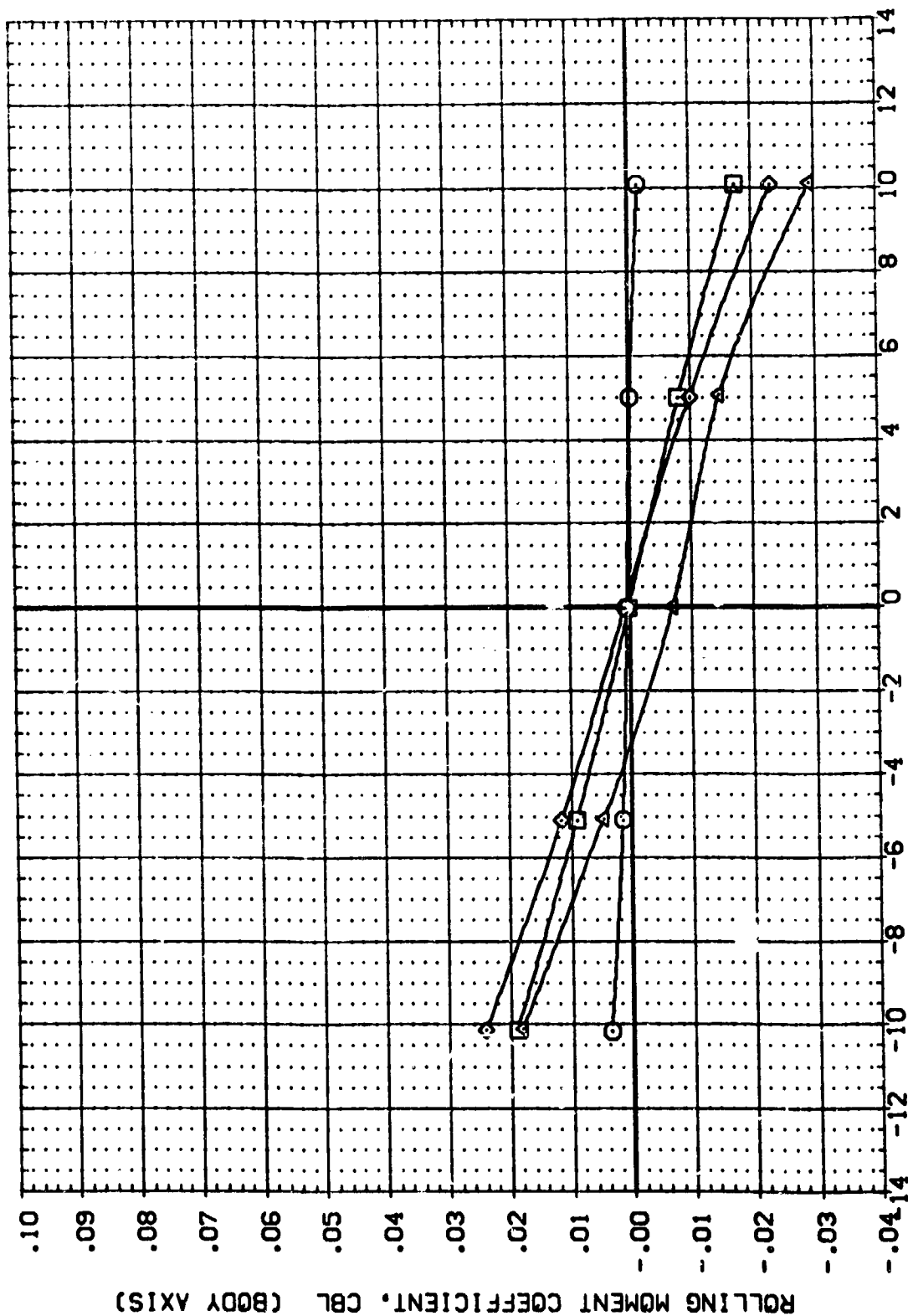


FIGURE 77 LATERAL DIRECTIONAL EFFECTS WITH 55 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPOILER	REFERENCE INFORMATION
(RPO02)	QAZ1 B17C7 M4FS V107E23V7R6X9	.000	.000	.000	55.000	SREF 4.4119 50. FT.
(RPO03)	QAZ1 B17C7 M4FS V107E23V7R6X9	10.000	.000	.000	55.000	LREF 19.2299 INCHES
(RPO04)	QAZ1 B17C7 M4FS V107E23V7R6X9	15.000	.000	.000	55.000	BREF 37.9359 INCHES
(RPO05)	QAZ1 B17C7 M4FS V107E23V7R6X9	20.000	.000	.000	55.000	YMRP 43.5974 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

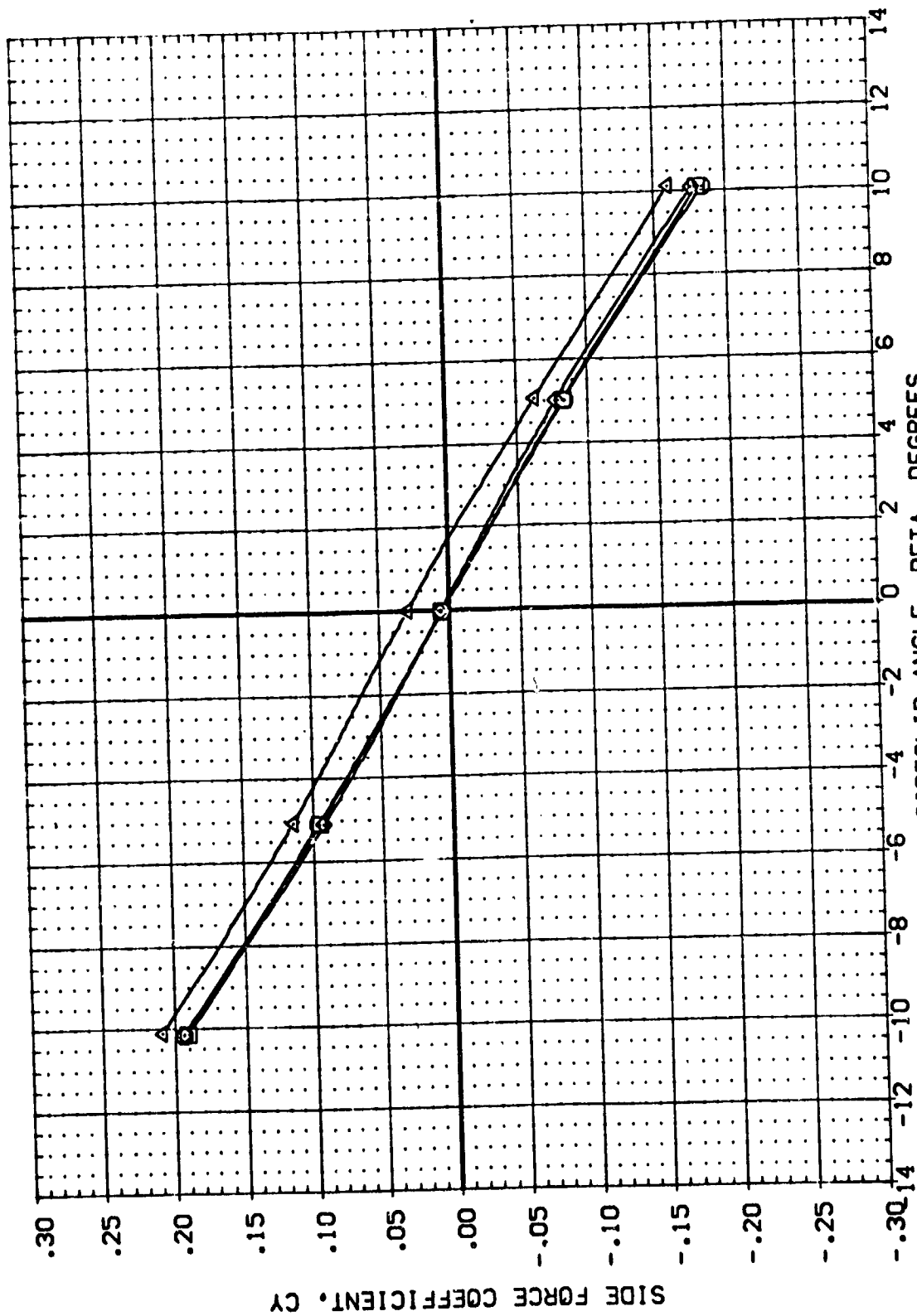


FIGURE 77 LATERAL DIRECTIONAL EFFECTS WITH 55 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26

(JDP002)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	BOFLAP	AILRON	RUDER	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	.250	-18.000	.000	.000	ELEVON	ALPHA	SREF
		.000	.000	.000	VTLINC	.300	LREF
		.000	.000	.000	SPOBRK	15.000	BREF
							XPRP
							YPRP
							ZPRP
							SCALE
							SCALE

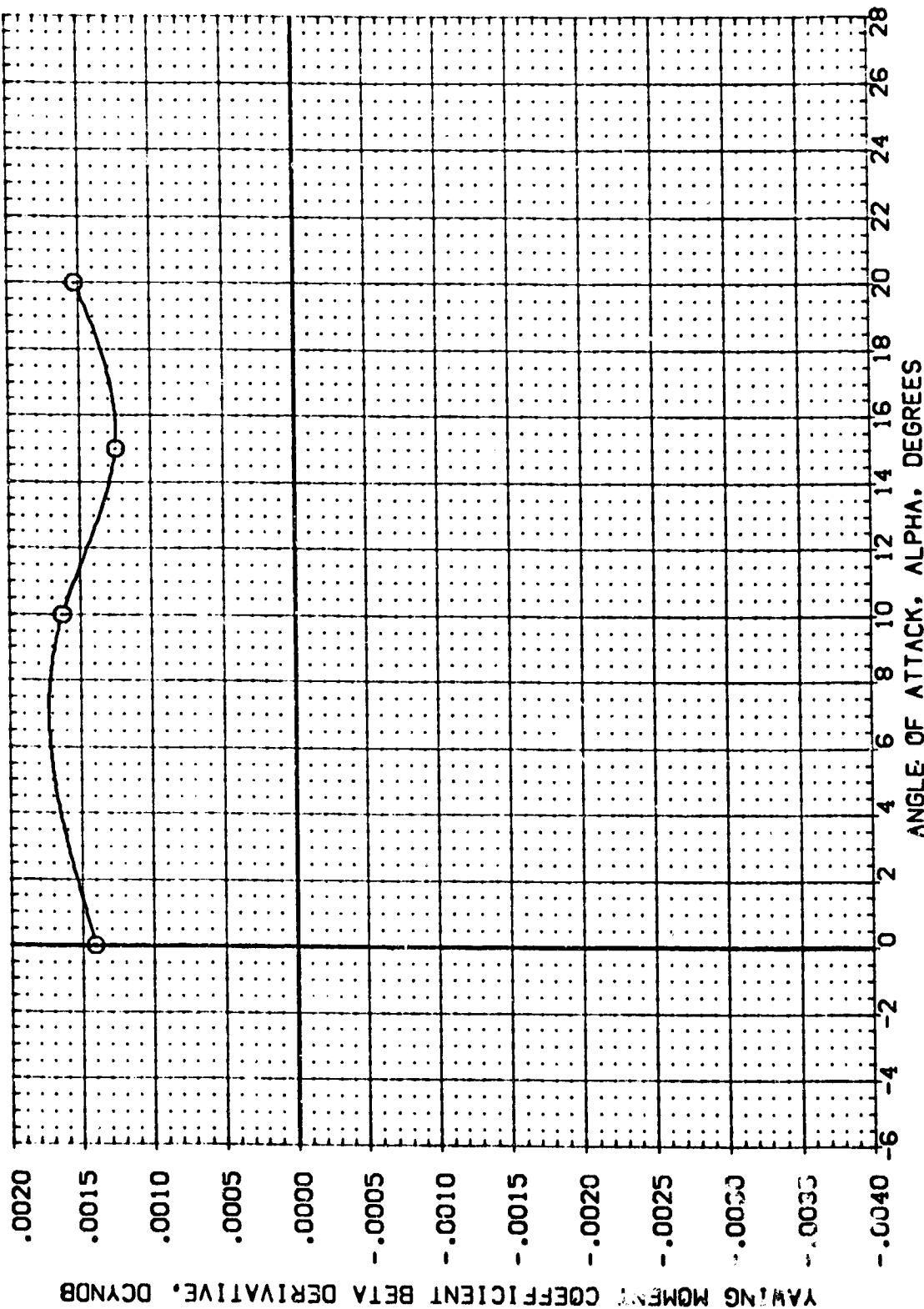


FIGURE 77 LATERAL DIRECTIONAL EFFECTS WITH 55 DEG. SPEED BRAKE DEFLECTION

(JDP002)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL MACH  
O .260

PARAMETRIC VALUES  
BOFLAP -18.000  
AILRON .000  
RUDDER .000

ELEVON  
VTILINC  
SPDBRK

.000  
.000  
55.000

.000 DATASET  
.000 JDP002  
55.000 JDP004

DATA SOURCE  
ALPHA  
15.000

ALPHA  
10.000  
20.000

REFERENCE INFORMATION  
SREF 4.4119  
LREF 19.2299  
BREF 37.9358  
XMRP 43.5574  
YMRP .0000  
ZMRP 16.2000  
SCALE .0405

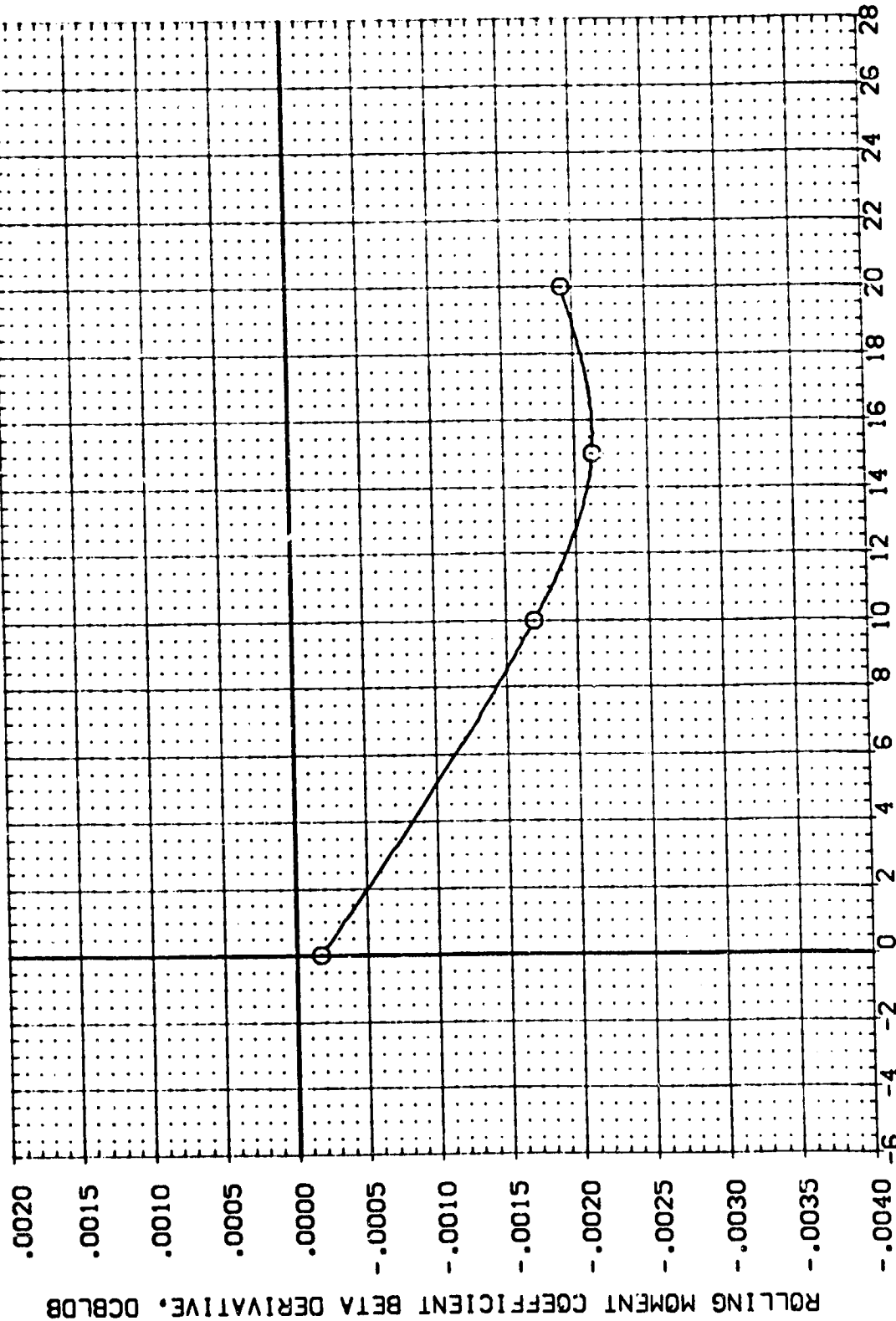


FIGURE 77 LATERAL DIRECTIONAL EFFECTS WITH 55 DEG. SPEED BRAKE DEFLECTED

(JDP002)

W107E23V7R6X9

M4F5

B17C7

0A21

SYMBOL MACH .260  
 REFERENCE INFORMATION  
 SREF 4.4119 SC.FT.  
 LREF 19.2298 INCHES  
 BREF 37.9359 INCHES  
 XREF 43.5974 INCHES  
 YREF .0000 INCHES  
 ZREF 16.2000 INCHES  
 SCALE .0405

DATA SOURCE  
 ALPHA .000  
 DATASET JDP003  
 JDP005

PARAMETRIC VALUES  
 ELEVON .000  
 VTILINC .000  
 SPEEDBRK .000

BOFLAP -18.000  
 AILRON .000  
 RUDDER .000

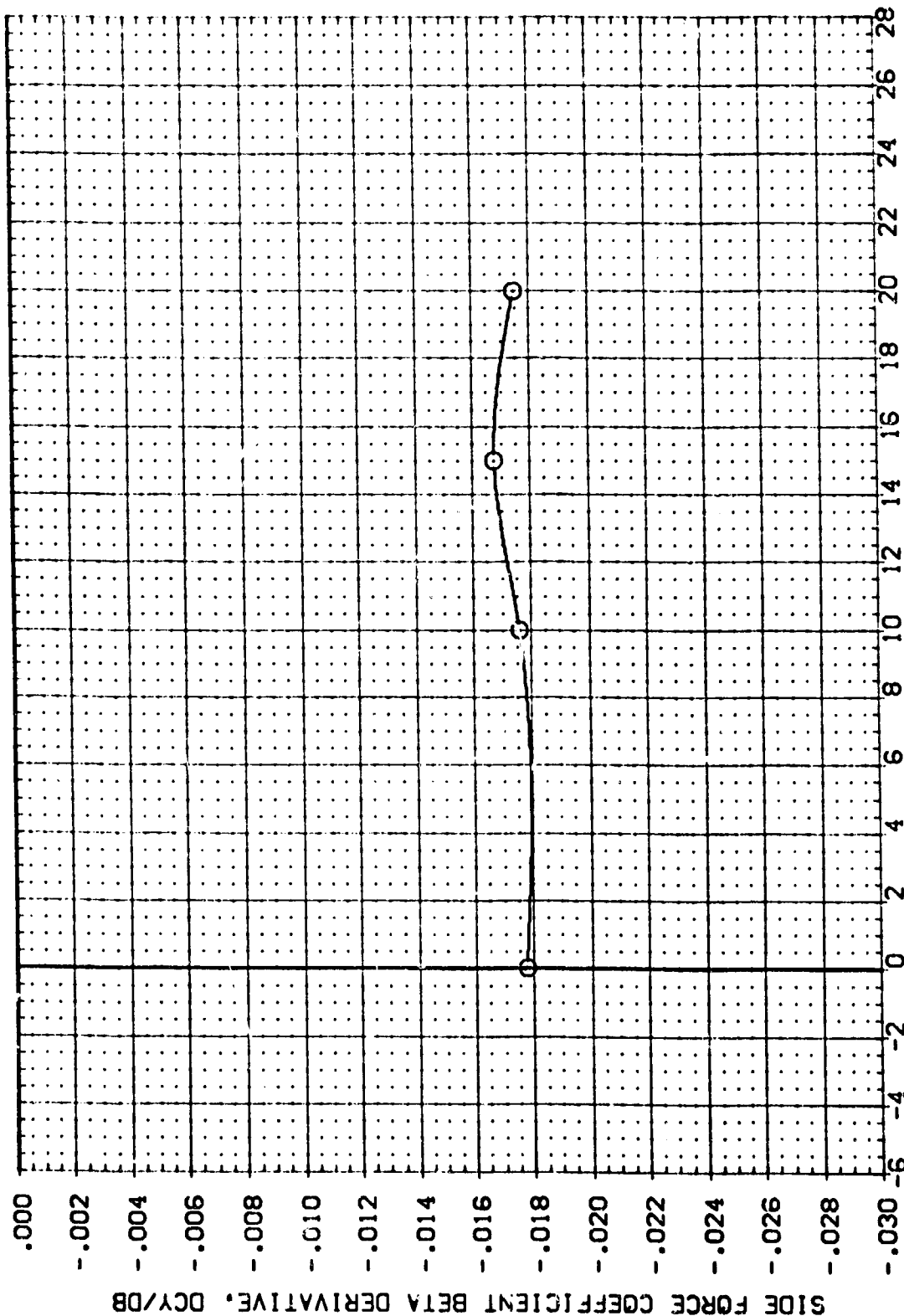


FIGURE 77 LATERAL DIRECTIONAL EFFECTS WITH 55 DEG. SPEED BRAKE DEFLECTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AIRLON	FLUDER	SPDBRK	REFERENCE INFORMATION
(RQ036)	OA21 B17C7 M4F5 V107E23V7R6X9	.000	.000	.000	85.000	SREF 4.4119 SQ.FT.
(RQ037)	OA21 B17C7 M4F5 V107E23V7R6X9	10.000	.000	.000	85.000	LREF 19.2299 INCHES
(RQ038)	OA21 B17C7 M4F5 V107E23V7R6X9	15.000	.000	.000	85.000	BREF 37.9359 INCHES
(RQ039)	OA21 B17C7 M4F5 V107E23V7R6X9	20.000	.000	.000	85.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

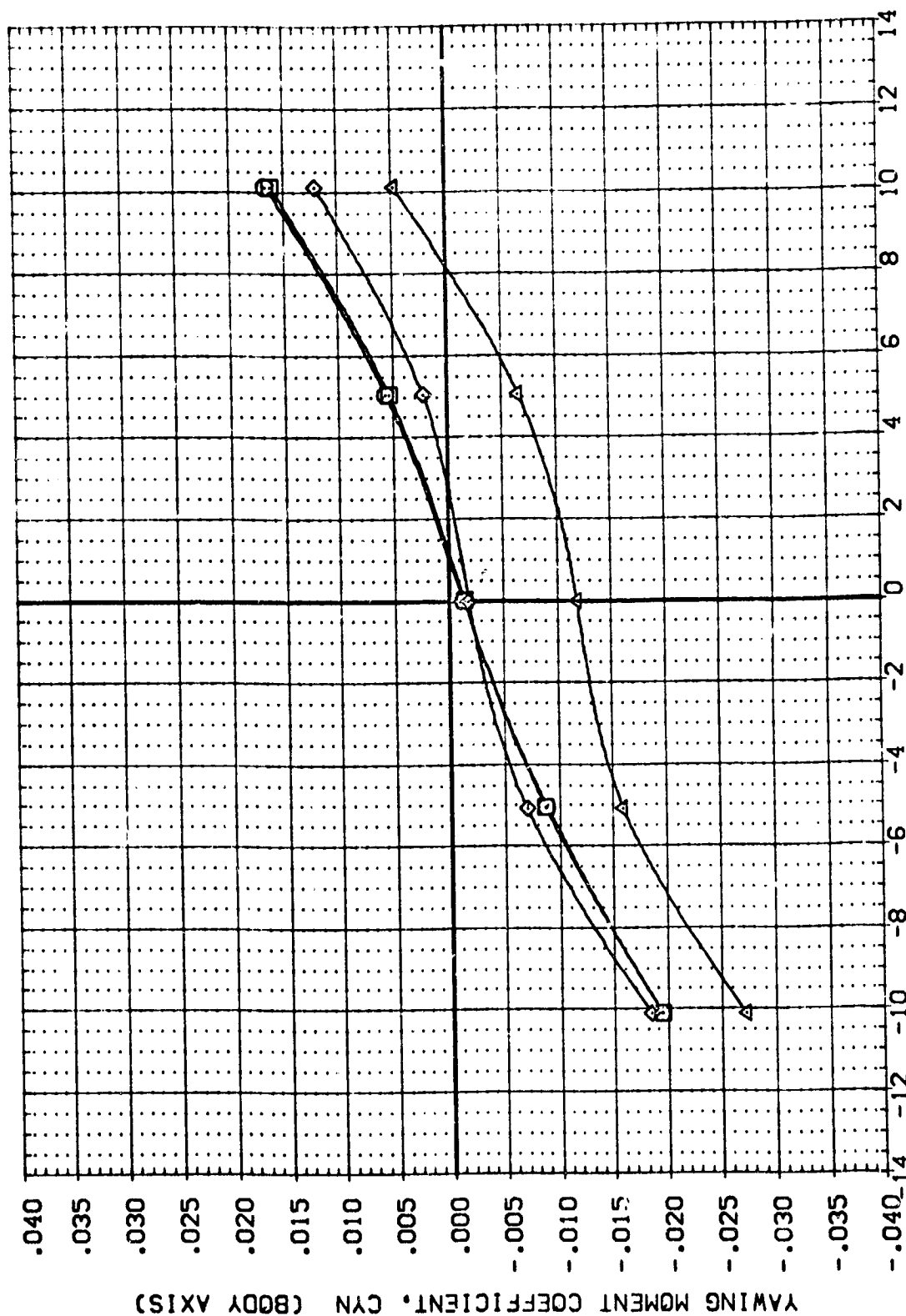


FIGURE 78 LATERAL DIRECTIONAL EFFECTS WITH 85 DEG. SPEED BRAKE DEFLECTION

(A) MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPOILER	REFERENCE INFORMATION
(RDP36)	CA21 B17C7 M4FS V107E23V7R6X9	.000	.000	.000	85.000	SREF 4.4119 SO.FT.
(RDP37)	CA21 B17C7 M4FS V107E23V7R6X9	10.000	.000	.000	85.000	LREF 19.2299 INCHES
(RDP38)	CA21 B17C7 M4FS V107E23V7R6X9	15.000	.000	.000	85.000	BREF 37.5359 INCHES
(RDP39)	CA21 B17C7 M4FS V107E23V7R6X9	20.000	.000	.000	85.000	XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

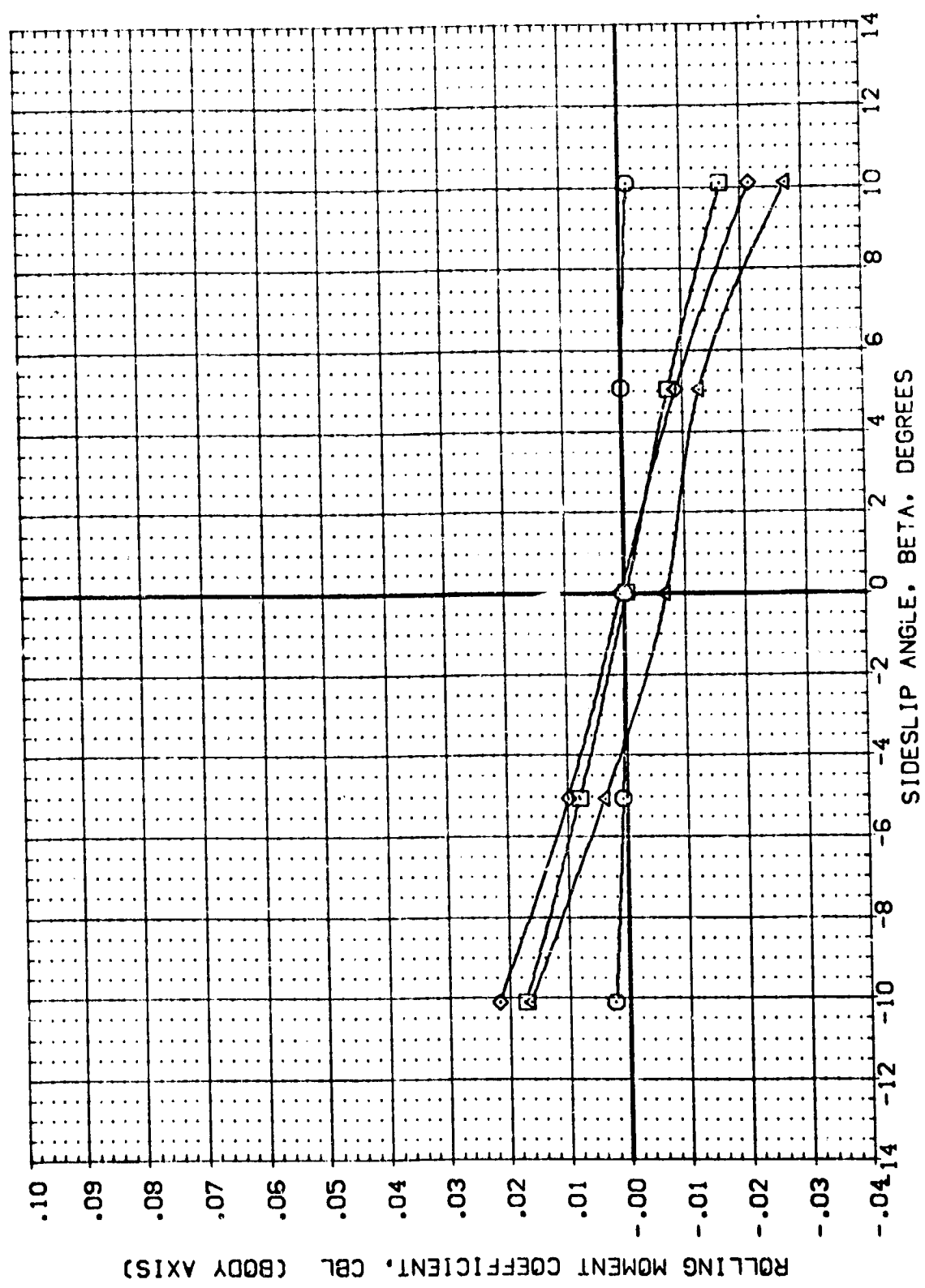


FIGURE 78 LATERAL DIRECTIONAL EFFECTS WITH 85 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPOILER	REFERENCE INFORMATION		
(RDP036)	0A21 B17C7 MAFS V107E23V7R6X9	.000	.000	.000	85.000	SREF	4.4119	SC.FT.
(RDP037)	0A21 B17C7 MAFS V107E23V7R6X9	10.000	.000	.000	85.000	LREF	19.2299	INCHES
(RDP038)	0A21 B17C7 MAFS V107E23V7R6X9	15.000	.000	.000	85.000	SREF	37.9359	INCHES
(RDP039)	0A21 B17C7 MAFS V107E23V7R6X9	20.000	.000	.000	85.000	XMRP	43.5974	INCHES
						YMRP	.0000	INCHES
						ZMRP	16.2000	INCHES
						SCALE	.0405	SCALE

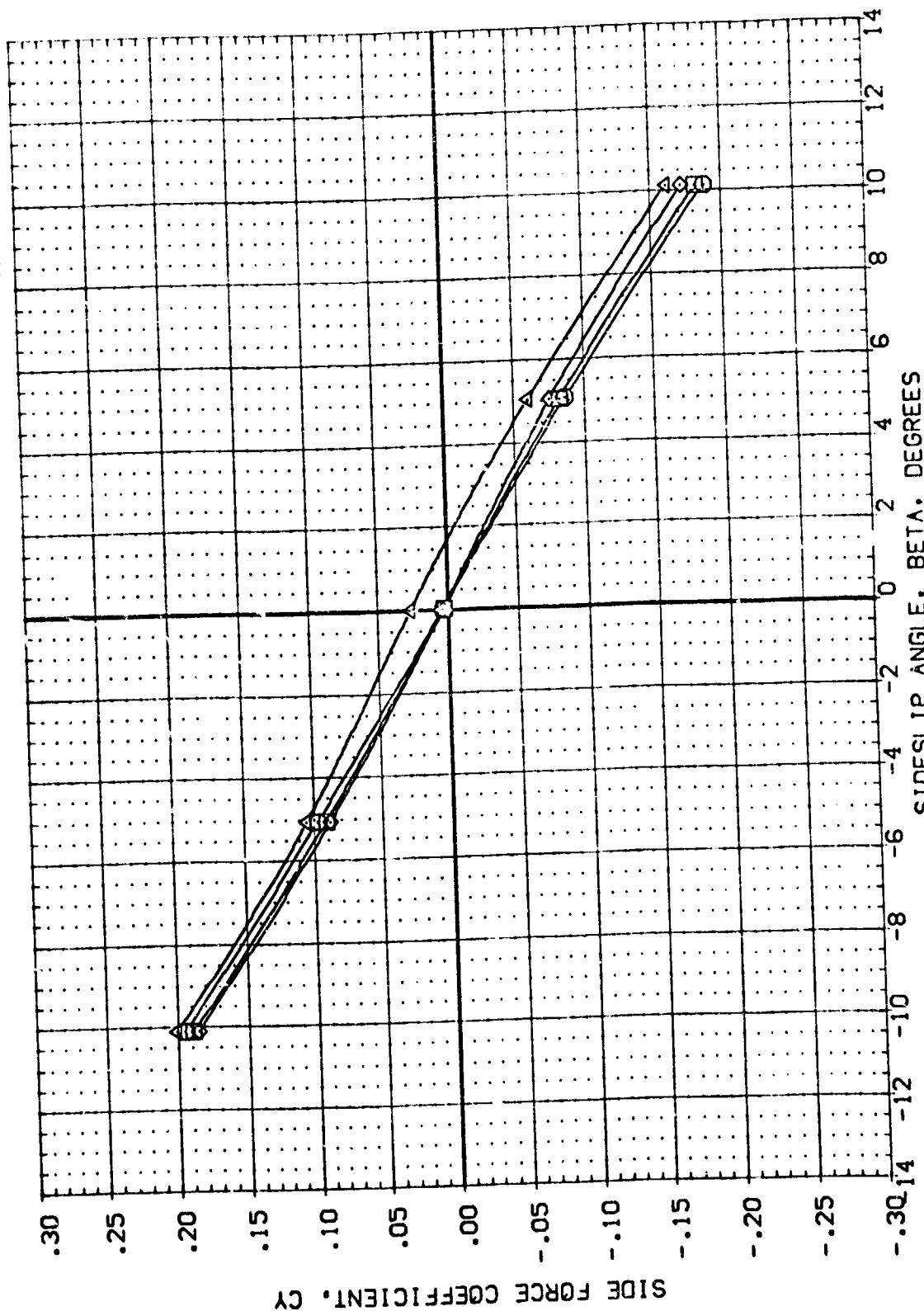


FIGURE 78 LATERAL DIRECTIONAL EFFECTS WITH 85 DEG. SPEED BRAKE DEFLECTION

(A)MACH = .26



(JDP036)

0A21 B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION			
		BOFLAP	ELEVON	VTILINC	ALPHA	DATASET	ALPHA	SREF	LREF	SO.FT.
○	.260	-18.000	.000	.000	.000	JDP036	10.000	19.2299	19.2299	INCHES
		AILRON	.000	.000	.000	JDP036	20.000	37.9353	37.9353	INCHES
		RUDCER	.000	.000	.000	JDP036	20.000	43.5974	43.5974	INCHES
					15.000			16.2000	16.2000	INCHES
								SCALE	SCALE	SCALE

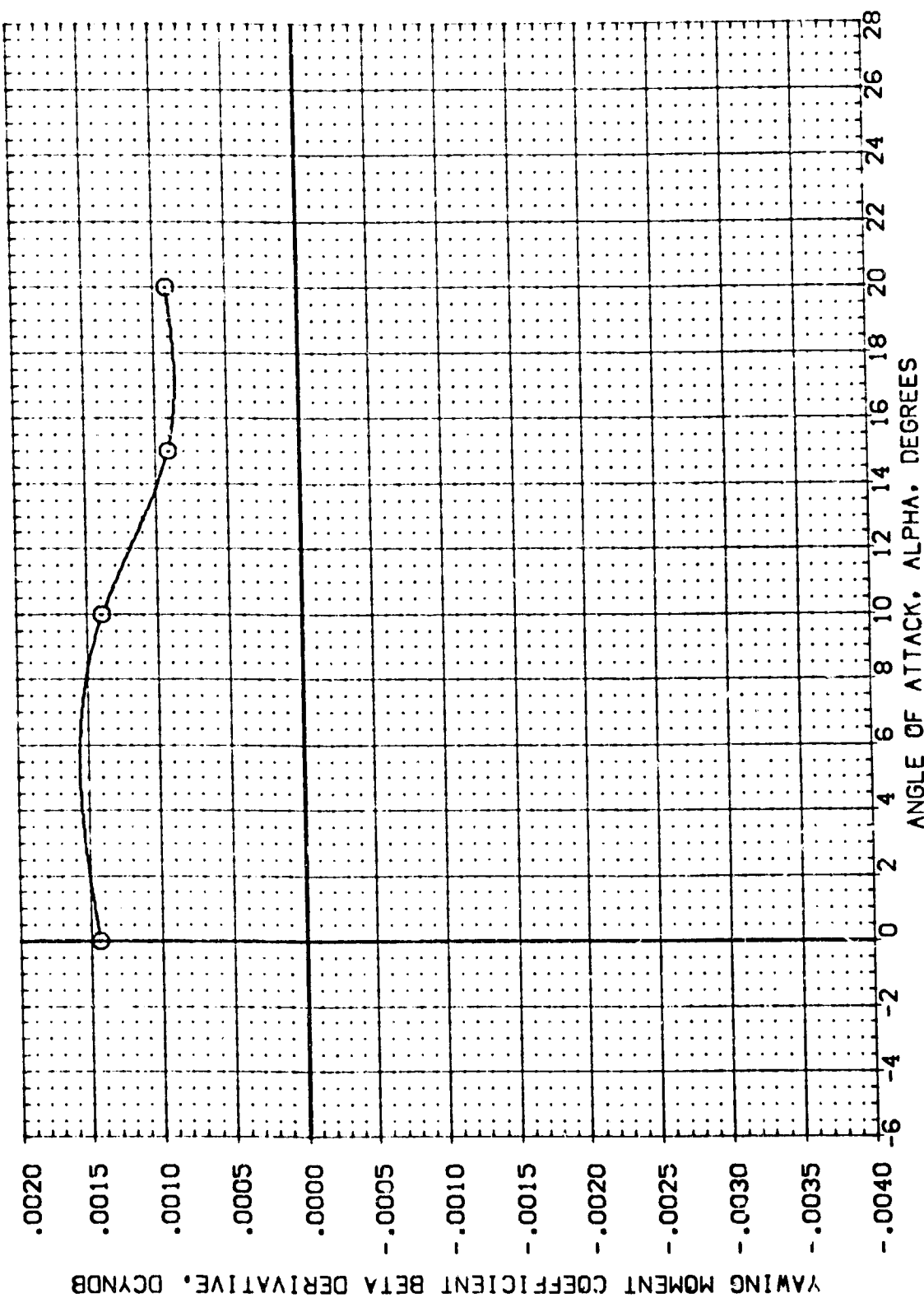


FIGURE 78 LATERAL DIRECTIONAL EFFECTS WITH 85 DEG. SPEED BRAKE DEFLECTION

(JDP036)

GA2: B17C7 M4F5 W107E23V7R6X9

SYMBOL	MACH	PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION			
		BOFLAP	ELEVON	VTILNC	ALPHA	DATASET	ALPHA	SREF	SO.FT.	
○	.260	-18.000	.000	.000	.000	JDP036	10.000	REF	4.4119	INCHES
		AILRON	.000	.000	.000	JDP037	20.000	REF	19.2239	INCHES
		RUDER	.000	.000	15.000	JDP039	20.000	REF	37.9359	INCHES
								YMRP	43.5974	INCHES
								ZMRP	16.0000	INCHES
								SCALE	16.2000	INCHES
									.0405	SCALE

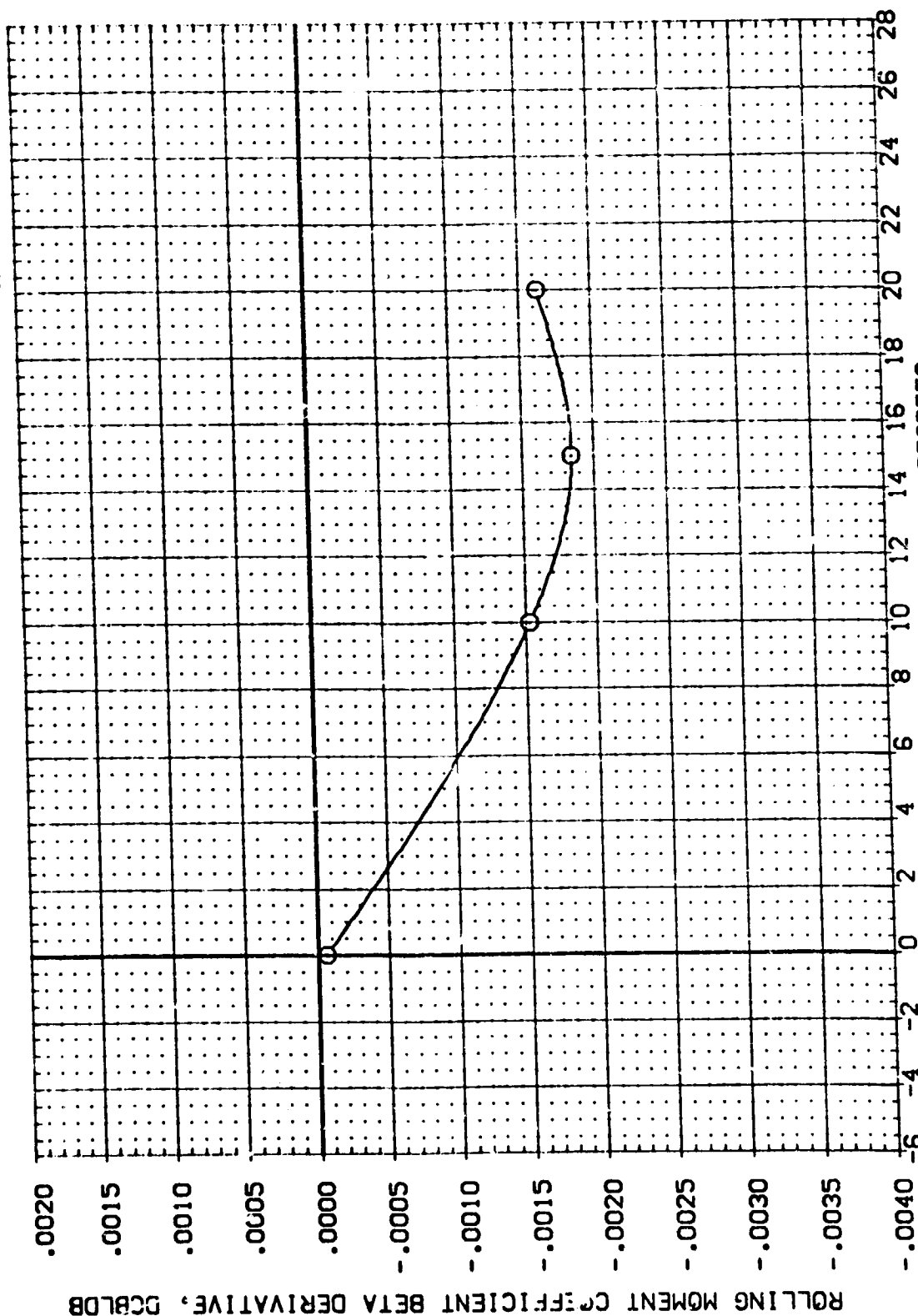


FIGURE 78 LATERAL DIRECTIONAL EFFECTS WITH 85 DEG. SPEED BRAKE DEFLECTION

(JDP036)

W107E23V7R6X9

M4F5

B17C7

0A21

SYMBOL

MAG

REFLAP

PARAMETRIC VALUES

DATA SOURCE

ALPHA

DATASET

ALPHA

DATASET

ALPHA

SREF

REF

INCHES

0

.250

-18.000

ELEVON

VTLINC

85.000

JDP036

15.000

20.000

10.000

19.2289

37.9359

43.5974

AILRON

RIDER

.000

SPOBRK

16.2000

INCHES

INCHES

INCHES

INCHES

INCHES

INCHES

INCHES

SCALE

0.000

0.002

0.004

0.006

0.008

0.010

0.012

0.014

0.016

0.018

0.020

0.022

0.024

0.026

0.028

0.030

0.032

0.034

0.036

0.038

0.040

0.042

0.044

0.046

0.048

0.050

0.052

0.054

0.056

0.058

0.060

0.062

0.064

0.066

0.068

0.070

0.072

0.074

0.076

0.078

0.080

0.082

0.084

0.086

0.088

0.090

0.092

0.094

0.096

0.098

0.100

0.102

0.104

0.106

0.108

0.110

0.112

0.114

0.116

0.118

0.120

0.122

0.124

0.126

0.128

0.130

0.132

0.134

0.136

0.138

0.140

0.142

0.144

0.146

0.148

0.150

0.152

0.154

0.156

0.158

0.160

0.162

0.164

0.166

0.168

0.170

0.172

0.174

0.176

0.178

0.180

0.182

0.184

0.186

0.188

0.190

0.192

0.194

0.196

0.198

0.200

0.202

0.204

0.206

0.208

0.210

0.212

0.214

0.216

0.218

0.220

0.222

0.224

0.226

0.228

0.230

0.232

0.234

0.236

0.238

0.240

0.242

0.244

0.246

0.248

0.250

0.252

0.254

0.256

0.258

0.260

0.262

0.264

0.266

0.268

0.270

0.272

0.274

0.276

0.278

0.280

0.282

0.284

0.286

0.288

0.290

0.292

0.294

0.296

0.298

0.300

0.302

0.304

0.306

0.308

0.310

0.312

0.314

0.316

0.318

0.320

0.322

0.324

0.326

0.328

0.330

0.332

0.334

0.336

0.338

0.340

0.342

0.344

0.346

0.348

0.350

0.352

0.354

0.356

0.358

0.360

0.362

0.364

0.366

0.368

0.370

0.372

0.374

0.376

0.378

0.380

0.382

0.384

0.386

0.388

0.390

0.392

0.394

0.396

0.398

0.400

0.402

0.404

0.406

0.408

0.410

0.412

0.414

0.416

0.418

0.420

0.422

0.424

0.426

0.428

0.430

0.432

0.434

0.436

0.438

0.440

0.442

0.444

0.446

0.448

0.450

0.452

0.454

0.456

0.458

0.460

0.462

0.464

0.466

0.468

0.470

0.472

0.474

0.476

0.478

0.480

0.482

0.484

0.486

0.488

0.490

0.492

0.494

0.496

0.498

0.500

0.502

0.504

0.506

0.508

0.510

0.512

0.514

0.516

0.518

0.520

0.522

0.524

0.526

0.528

0.530

0.532

0.534

0.536

0.538

0.540

0.542

0.544

0.546

0.548

0.550

0.552

0.554

0.556

0.558

0.560

0.562

0.564

0.566

DATA SET SYMBOL    CONFIGURATION DESCRIPTION

ROPO78	DA21	B1/C7	F5	V107E23V7R6X9
ROPO79	DA21	B1/C7	F5	V107E23V7R6X9
ROPO80	DA21	B1/C7	F5	V107E23V7R6X9
ROPO81	DA21	B1/C7	F5	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.4119	50 FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XPRP	43.5974	INCHES
YPRP	.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	SCALE

ALPHA

.000
.000
.000
.000

AILERON

.000
.000
.000
.000

RUDER

.000
.000
.000
.000

SPOBRK

55.000
55.000
55.000
55.000

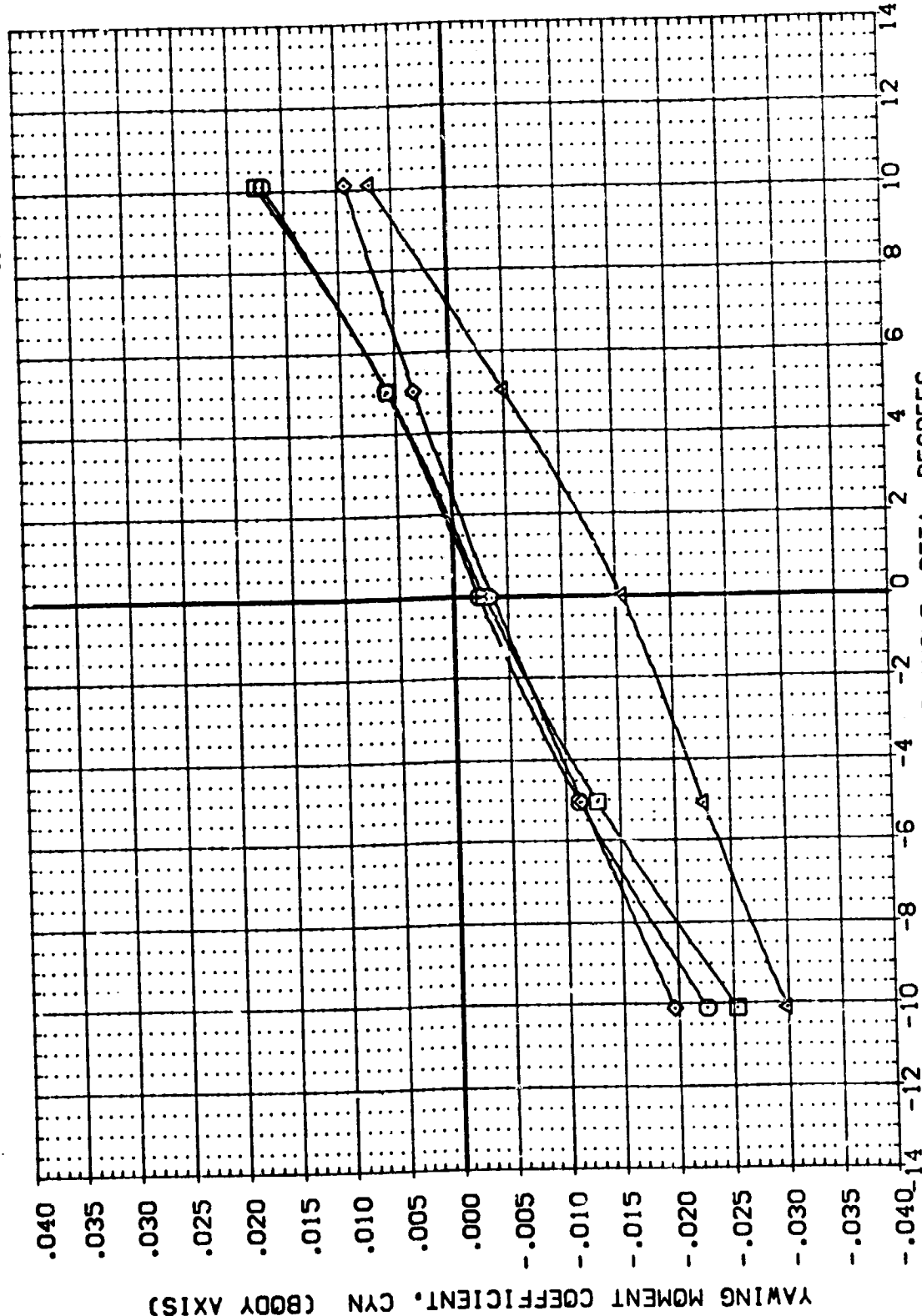


FIGURE 79 LATERAL DIRECTIONAL EFFECTS WITHOUT QMS POD ( SPOBRK = 55 DEG. )

(A)MACH = .26

DATA SET SYMBO. CONFIGURATION DESCRIPTION

(RDP078)	QAZ1	817C7	F5	V107E23V7R6X9
(RDP079)	QAZ1	817C7	F5	V107E23V7R6X9
(RDP080)	QAZ1	817C7	F5	V107E23V7R6X9
(RDP081)	QAZ1	817C7	F5	V107E23V7R6X9

REFERENCE INFORMATION

SREF	4.4119	SO.FT.
LREF	19.2299	INCHES
BREF	37.9359	INCHES
XMRP	43.5974	INCHES
YMRP	16.2000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

ALPHA AILRON RUDDER SPDBRK

ALPHA	.000	AILRON	.000	RUDDER	.000	SPDBRK	55.000
	10.000		.000		.000		55.000
	15.000		.000		.000		55.000
	20.000		.000		.000		55.000

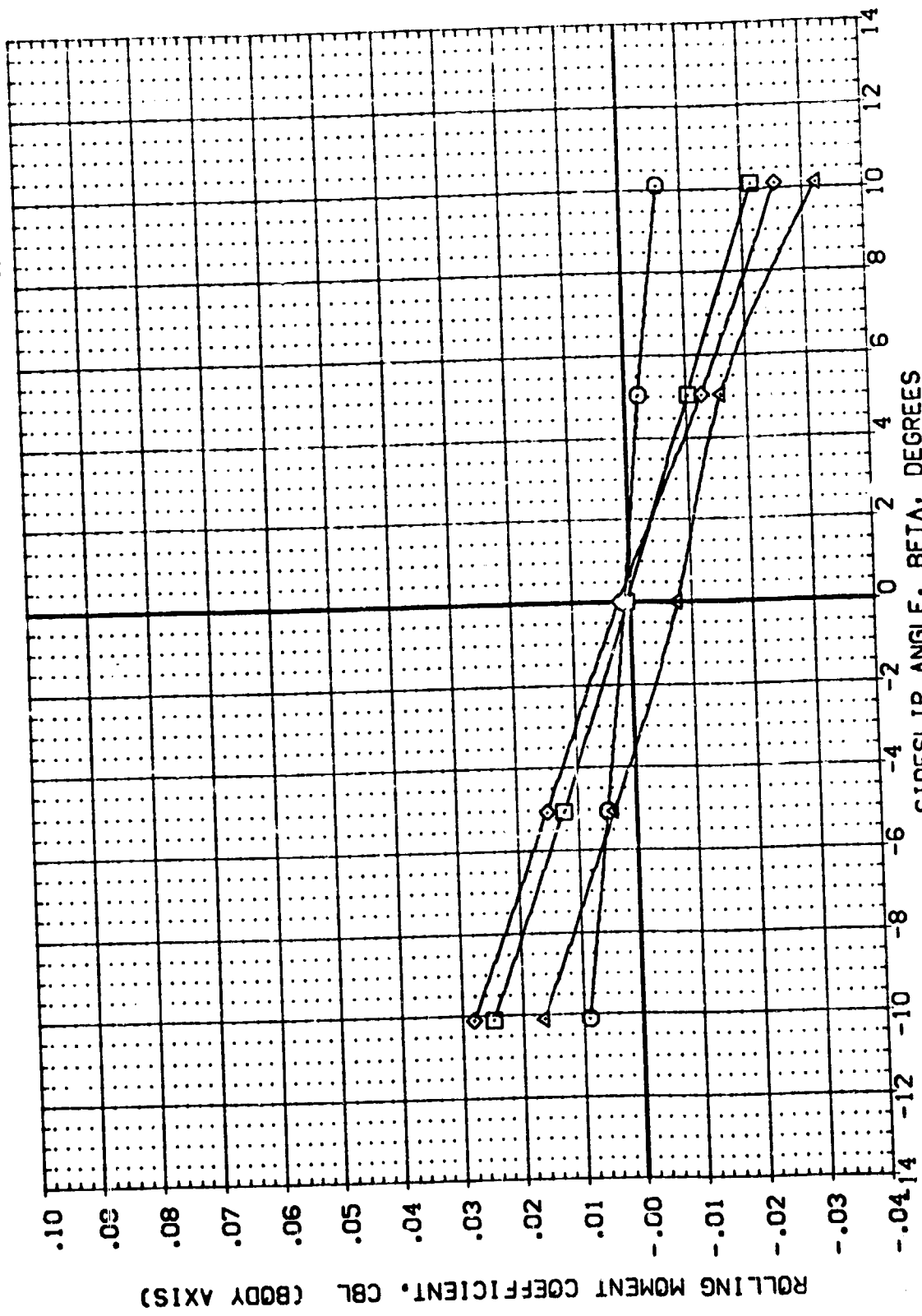


FIGURE 79 LATERAL DIRECTIONAL EFFECTS WITHOUT QMS POD ( SPDBRK = 55 DEG. )

(MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	AILERON	RUDDER	SPDRBK	REFERENCE INFORMATION			
(RDP078)	DA21 B17C7 F5 V107E23V7R6X9	.000	.000	.000	55.000	SREF	4.4119	SG.FT.	
(RDP079)	DA21 B17C7 F5 V107E23V7R6X9	10.000	.000	.000	55.000	LREF	19.2299	INCHES	
(RDP080)	DA21 B17C7 F5 V107E23V7R6X9	15.000	.000	.000	55.000	BREF	37.9359	INCHES	
(RDP081)	DA21 B17C7 F5 V107E23V7R6X9	20.000	.000	.000	55.000	XREF	43.5974	INCHES	
						YREF	16.0000	INCHES	
						ZREF	16.0000	INCHES	
						SCALE	.0005	INCHES	

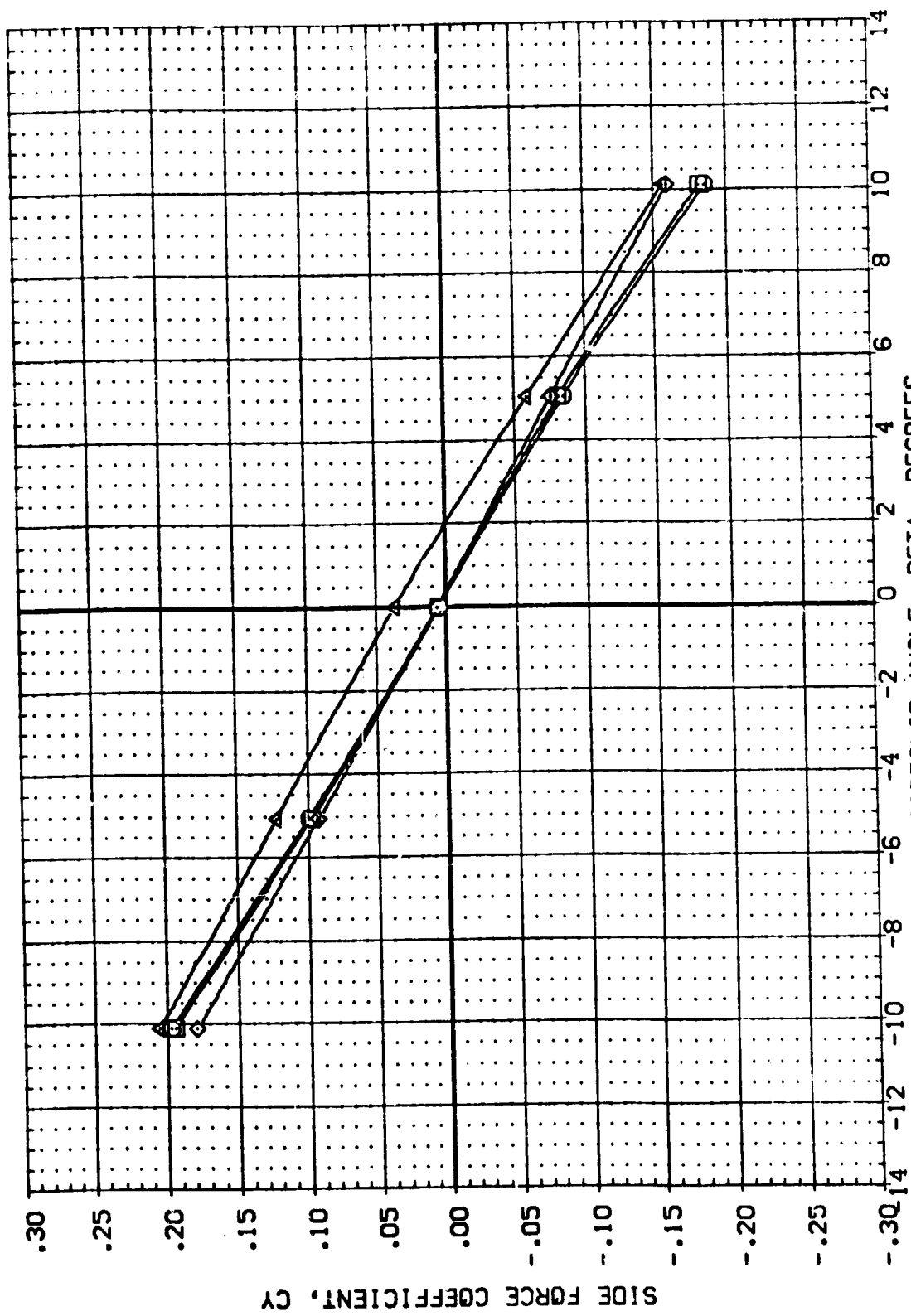


FIGURE 79 LATERAL DIRECTIONAL EFFECTS WITHOUT QMS POD ( SPDRBK = 55 DEG. )

ALPHA	CANARD	RUDDER	STABILIZER	REFERENCE IN INCHES	IN FT.
000	0.000	0.000	0.000	1.419	0.035
000	0.000	0.000	0.000	19.229	0.483
10.000	0.000	0.000	0.000	19.539	0.495
15.000	0.000	0.000	0.000	43.574	1.117
20.000	0.000	0.000	0.000	16.000	0.408
				16.000	0.408
				SCALE	SCALE

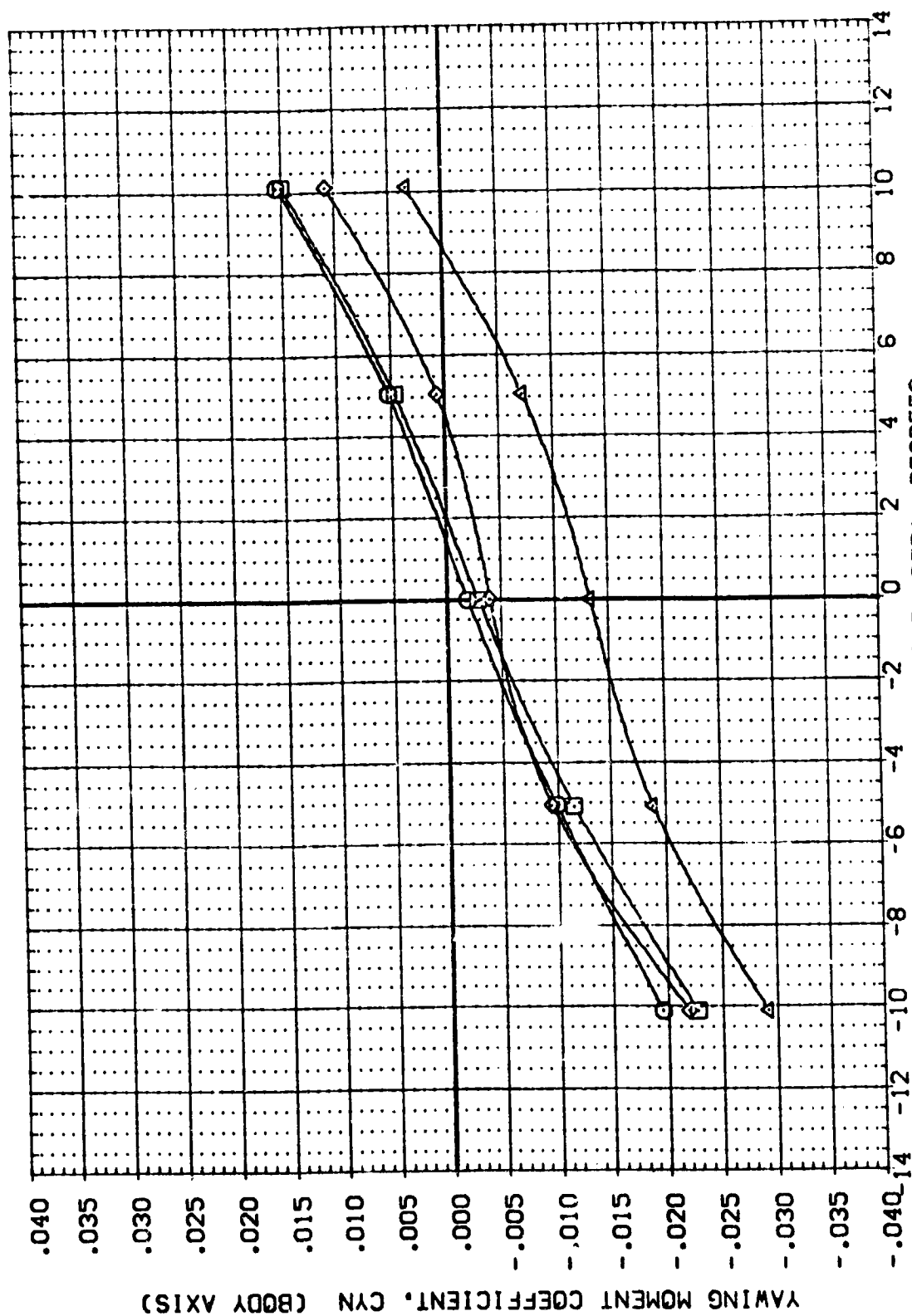


FIGURE 80 LATERAL DIRECTIONAL EFFECTS OF H2 CANARD ( SPDBRK = 55 DEG. )

[A]MACH = .26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	RUDDER	SPOBRK	REFERENCE INFORMATION
(RDP073)	QA21 B17C7 H2M4FS V107E23V7R1 X9	.000	.000	.000	55.000	SREF 4.4119 SO.FT.
(RDP074)	QA21 B17C7 H2M4FS V107E23V7R1 X9	10.000	.000	.000	55.000	LREF 19.2299 INCHES
(RDP075)	QA21 B17C7 H2M4FS V107E23V7R1 X9	15.000	.000	.000	55.000	BREF 37.9359 INCHES
(RDP076)	QA21 B17C7 H2M4FS V107E23V7R1 X9	20.000	.000	.000	55.000	XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

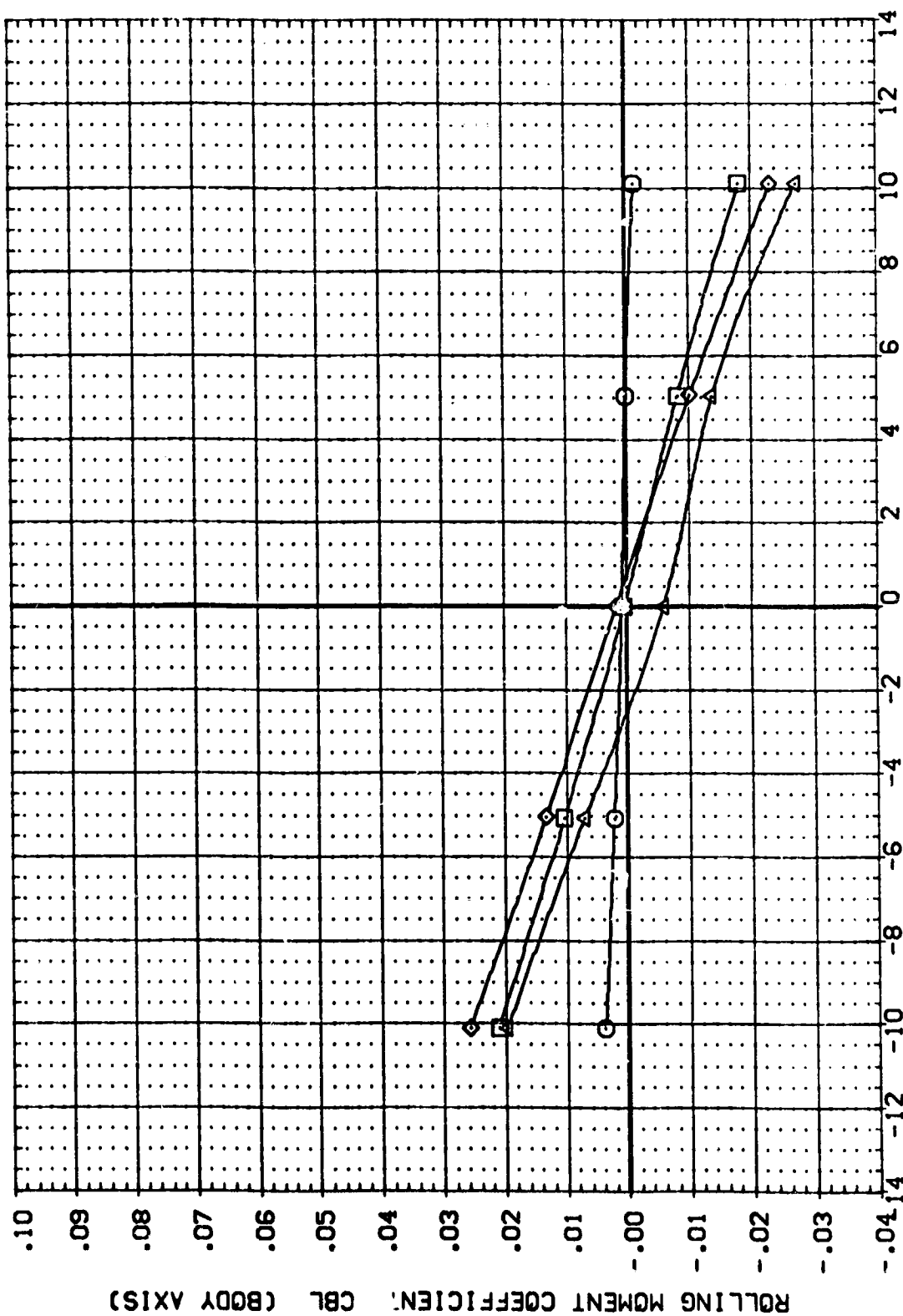


FIGURE 80 LATERAL DIRECTIONAL EFFECTS OF H2 CANARD ( SPOBRK = 55 DEG. )

(A)MACH = .26



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	RUDDER	SPDBRK	REFERENCE INFORMATION
(RDP073)	□	0A21 817C7 H2M4F5 V107E23V7R6X9	.000	.000	.000	55.000	SREF 4.4119 SQ.FT.
(RDP074)	□	0A21 817C7 H2M4F5 V107E23V7R6X9	10.000	.000	.000	55.000	LREF 19.2299 INCHES
(RDP075)	□	0A21 817C7 H2M4F5 V107E23V7R6X9	15.000	.000	.000	55.000	BREF 37.9359 INCHES
(RDP076)	□	0A21 817C7 H2M4F5 V107E23V7R6X9	20.000	.000	.000	55.000	XREF 43.5974 INCHES
							YREF .0000 INCHES
							ZREF 16.2000 INCHES
							SCALE .0405 INCHES

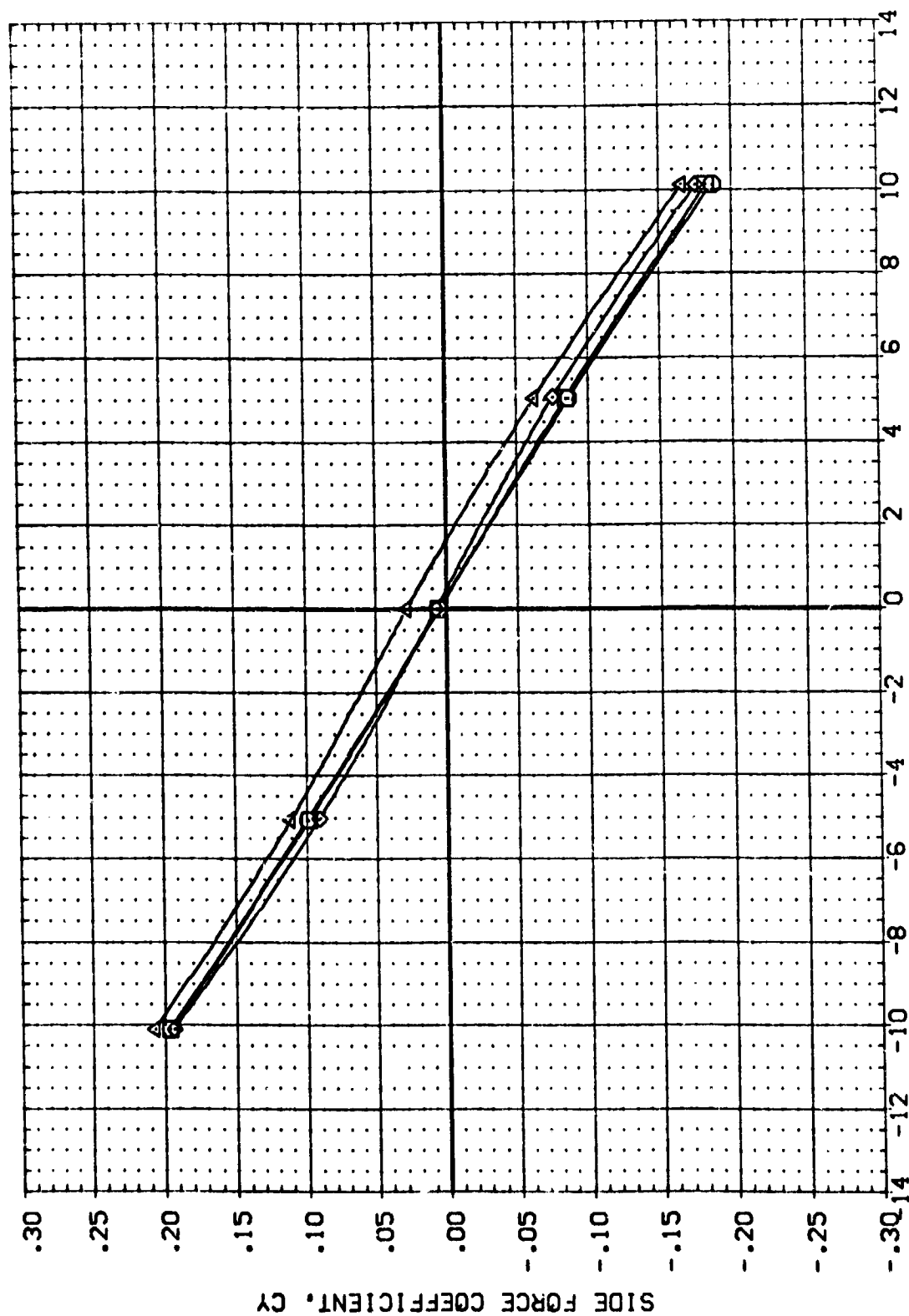


FIGURE 80 LATERAL DIRECTIONAL EFFECTS OF H2 CANARD ( SPDBRK = 55 DEG. )

(A)MACH = .26

APPENDIX  
TABULATED SOURCE DATA

---

Plotted data listings are available on request  
from Data Management Services.

## REFERENCE DATA

BARP =	4.4119 SQ.FT.	YMRP =	43.9974 INCHES
LRBP =	19.2299 INCHES	YMRP =	.0000 INCHES
ZMRP =	37.9339 INCHES	ZMRP =	16.2000 INCHES
SCALE =	.0405 SCALE		

0A21 B17C7 M4F5 W1D7E23V7R6X9

### PARAMETRIC DATA

BETA =	.0000	DISPL =	-10.0000
ELEVON =	.0000	AILON =	.0000
VTINC =	.0000	RUDER =	.0000
SEDSRK =	55.0000		

SUN NO. 1/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

### REFERENCE DATA

YARP =	4.4119	SE.FT.	YARP =	43.9974	INCHES
YARP =	19.2299	INCHES	YARP =	.0000	INCHES
ZARP =	37.9359	INCHES	ZARP =	16.2000	INCHES
SCALE =		.0005	SCALE =		

0A21 B17C7 MAF5 W107E23V7R6X9

### PARAMETRIC DATA

ALPHA =	.000	90FLAP =	-10.000
ELEVON =	.000	AIRLON =	.000
VTLLNC =	.000	RUDDER =	.000
SENSEK =	55.000		

Parameter	Estimate	Standard Error	t-Statistic	p-Value	Gradient Interval
Intercept	-1.00	0.10	-10.00	0.0001	-1.20 to -0.80
Age	0.05	0.02	2.50	0.0100	0.01 to 0.09
Gender	-0.10	0.05	-2.00	0.0400	-0.20 to 0.00
Marital Status	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Education	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Income	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Health	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Occupation	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Religion	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Political Affiliation	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Family Size	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Home Ownership	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Auto Ownership	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Travel Frequency	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Spending Habits	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Life Satisfaction	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Overall Health	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Stress Levels	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Work-Life Balance	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Community Involvement	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Environmental Concerns	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Technology Usage	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Artistic Interests	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Physical Activity	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Volunteering	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Charitable Giving	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Political Participation	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Religious Attendance	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Family Time	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Work Hours	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Commuting Time	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Job Satisfaction	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Income Satisfaction	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Health Insurance	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Retirement Savings	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Real Estate Investment	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Art Collection	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Golfing Frequency	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Gardening Time	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Travel Budget	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Spending on Hobbies	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Charitable Contribution	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Political Donations	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Religious Tithing	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Family Expenses	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Work Expenses	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Commuting Costs	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Job Training Costs	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Health Insurance Premium	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Retirement Savings Rate	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Real Estate Investment Return	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Art Collection Value	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Golfing Equipment Cost	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Gardening Supplies Cost	0.00	0.05	0.00	0.9900	-0.10 to 0.10
Travel Agency Fees	0.00	0.05	0.00	0.9	

[illegible]

**REFERENCE DATA**

SREP = 4.4119 SQ.FT.      XREP = 43.5974 INCHES  
 LREP = 19.2299 INCHES      YREP = .0000 INCHES  
 BREP = 37.9399 INCHES      ZREP = 16.2000 INCHES  
 SCALE = .0405 SCALE

3/ 0 RN/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## REFERENCE DATA

SREF = 4.4119 SQ.FT.      XGRP = 43.5974 INCHES  
 LREF = 19.2259 INCHES      YGRP = .0000 INCHES  
 BREF = 37.9359 INCHES      ZGRP = 16.2010 INCHES  
 SCALE = .0405 SCALE

RUN NO.	4/ 0	RAW/L =	1.83	GRADIENT INTERVAL =	-5.00V	5.00
---------	------	---------	------	---------------------	--------	------

[illegible]

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-703 ORCTR

PAGE 3

0A21 B17C7 MAF5 W107E23V7R6X9

RDP005) ( 09 JUL 73 )

## REFERENCE DATA

REF = 4.4119 SQ.FT. XHRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YHRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZHRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

ALPHA = 20.000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPOBRK = 55.000

RUN NO. 5/ 0 RV/L = 1.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.120	.93510	.30510	.01440	.98230	-.05085	-.03120	.01810	.20900	.64400	.05810
.260	-5.080	.91900	.29900	.03780	.96510	-.05066	-.01970	.00470	.11400	.63500	.04897
.260	.010	.93290	.29660	.04320	.97710	-.05448	-.01270	.00700	.03000	.63300	.05146
.260	5.070	.94980	.28660	.03980	.96930	-.07424	-.00420	-.01480	-.06300	.63400	.05174
.260	10.130	.96350	.28030	.01830	1.02130	-.08507	.00550	-.02930	-.16000	.64300	.05534
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

0A21 B17C7 MAF5 W107E23V7R6X9

RDP006) ( 09 JUL 73 )

## REFERENCE DATA

REF = 4.4119 SQ.FT. XHRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YHRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZHRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = .000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPOBRK = 55.000

RUN NO. 6/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.200	-.25150	.05570	.05360	-.25490	.03717	-.00130	.00060	.00400	.72700	.04340
.260	-2.100	-.15450	.04930	.05200	-.15620	.04360	-.00150	.00060	.00400	.77200	.04236
.260	-.010	-.05920	.04490	.05120	-.05920	.04497	-.00150	.00050	.00300	.96700	.04226
.260	2.080	.03760	.04430	.05040	.03920	.04294	-.00170	.00060	.00400	.17600	.04177
.260	4.220	.13580	.04650	.04980	.13890	.03646	-.00170	.00060	.00300	.51700	.04118
.260	6.290	.23230	.05300	.04970	.23670	.02722	-.00190	.00040	.00400	.57200	.03966
.260	8.370	.32880	.06310	.05010	.33450	.01460	-.00210	.00020	.00400	.59400	.03906
.260	10.490	.42690	.07750	.04990	.43580	-.00189	-.00230	.00010	.00500	.60700	.04006
.260	12.610	.53190	.09880	.04940	.54060	-.00176	-.00240	.00020	.00500	.61600	.04106
.260	14.710	.63620	.12790	.04820	.64940	-.03842	-.00250	.00080	.00400	.62300	.04230
.260	16.880	.76000	.16860	.03930	.77620	-.05932	-.00280	.00100	.00500	.63100	.04481
.260	18.950	.85830	.24130	.02810	.89020	-.05059	-.01250	-.00630	.02500	.63800	.04803
.260	21.070	.96510	.30710	.02080	1.01100	-.06042	-.01280	-.00670	.02700	.64200	.05062
.260	23.200	1.06630	.36780	.01360	1.13280	-.06369	-.00840	-.00480	.02100	.64500	.05342
.260	25.360	1.15480	.47080	.01330	1.24520	-.06925	-.00470	-.00220	.01100	.64500	.05832
	GRADIENT	.04599	-.00111	-.00044	.04676	-.00010	-.00005	.00000	-.00010	-.04821	-.00000

0421 817C7 M4F5 W107E23VTR6X9

(RDP0017) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 98.FT. XRRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YRRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZRRP = 16.2000 INCHES  
 SCALE = .0403 SCALE

## PARAMETRIC DATA

BETA = .000 BDFLAP = 10.000  
 ELEVON = .000 AILRON = .500  
 VTLINE = .000 RUDDER = .000  
 SPDGRK = 55.000

RUN NO. 7/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.10/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.200	-2.1180	.05760	.02900	-.21550	.04197	-.00150	.00060	.00500	.69900	.04197
.260	-2.090	-1.1500	.05220	.02830	-.11690	.04803	-.00150	.00050	.00400	.73900	.04126
.260	.020	-.01980	.04940	.02690	-.01960	.04947	-.00150	.00050	.00400	1.14900	.04042
.260	2.090	.07970	.05030	.02590	.08150	.04739	-.00150	.00060	.00300	.53200	.04011
.260	4.190	.17400	.05290	.02510	.17740	.04011	-.00180	.00040	.00500	.59700	.04041
.260	6.280	.27110	.06040	.02440	.27610	.03039	-.00160	.00040	.00300	.61700	.03926
.260	8.410	.37000	.07190	.02400	.37660	.01703	-.00200	.00030	.00400	.62600	.03920
.260	10.490	.46870	.08720	.02420	.47680	.00039	-.00230	.00020	.00500	.63100	.04078
.260	12.620	.57180	.11080	.02290	.58220	-.01678	-.00240	.00020	.00500	.63500	.04191
.260	14.710	.68100	.14060	.01880	.69440	-.03699	-.00270	.00090	.00500	.63900	.04473
.260	16.890	.79570	.18400	.01160	.81490	-.05512	-.00310	.00110	.00600	.64400	.04629
.260	18.980	.89920	.26010	-.00030	.93470	-.04639	-.01350	-.00640	.02700	.64900	.04971
.260	21.090	1.00520	.32700	-.00480	1.05560	-.05667	-.01280	-.00640	.02700	.65200	.05292
.260	23.220	1.10470	.40830	-.01610	1.17620	-.06032	-.00810	-.00510	.02100	.65400	.05681
.260	25.350	1.19310	.49270	-.01740	1.28920	-.06556	-.00840	-.00220	.01100	.65400	.06141
GRADIENT		.04610	-.00054	-.00049	.04695	-.00021	-.00003	-.00001	-.00005	-.01938	-.00020



DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 5

(RD0006) ( 09 JUL 73 )

0A21 817C7 M4F5 W107E23Y7R6X0

REFERENCE DATA

3REF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

BETA = .000 BDFLAP = 15.000  
ELEVON = .000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDBRK = 55.000

PARAMETRIC DATA

RUN NO. 8/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CL	XCF/L	CAB
.280	-4.180	-.10190	.05950	.00970	-.18330	.04617	-.00120	.00050	.00370	.68970	.04418
.280	-2.080	-.08280	.05540	.00980	-.08480	.05239	-.00120	.00050	.00300	.69250	.04260
.280	.000	.01110	.05450	.00930	.01110	.05453	-.00140	.00050	.00300	.34270	.04214
.280	2.140	.11130	.05480	.00830	.11350	.05059	-.00140	.00060	.00200	.62200	.04292
.280	4.200	.20630	.06090	.00720	.21020	.04569	-.00150	.00060	.00300	.63700	.04158
.280	6.330	.30480	.06920	.00630	.31060	.03518	-.00180	.00050	.00300	.64200	.04083
.280	8.410	.40230	.08080	.00490	.40980	.02110	-.00180	.00040	.00300	.64500	.04198
.280	10.480	.49970	.09660	.00480	.50900	.00409	-.00200	.00040	.00300	.64280	.04289
.280	12.640	.60240	.12090	.00440	.61430	-.01392	-.00240	.00040	.00400	.64700	.04300
.280	14.740	.71090	.15370	.00330	.72660	-.03222	-.00250	.00090	.00400	.64900	.04509
.280	16.870	.82460	.19610	-.00360	.84600	-.05173	-.00270	.00130	.00400	.65200	.04868
.280	18.980	.92650	.27210	-.01920	.96470	-.04416	-.01250	-.00600	.02500	.65700	.05308
.280	21.120	1.03070	.34193	-.02680	1.08470	-.05243	-.01250	-.00600	.02600	.65800	.05458
.280	22.890	1.13320	.41990	-.03410	1.20730	-.05401	-.01800	-.00490	.01900	.66000	.05989
.280	25.370	1.21820	.51070	-.03600	1.31920	-.06114	-.00410	-.00210	.00900	.65900	.06297
.280	GRADIENT	.04627	.00010	-.00531	.04720	-.00013	-.00004	.00001	-.00005	-.00625	-.00024

TABLE AFTER SOURCE DATA NAAL-705 Q121A

( 29 JUL 73 ) ( 600403Z )

0A23 B17C7 M4F3 W107E23VTR6X9

## PARAMETRIC DATA

BETA =	.000	BCLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLLNC =	.000	RUDDER =	.000
SPDRK =	.000		

GRADIENT INTERVAL = -5.00 5.00

ALPHA	CL	CDF	CLM	CN	CAF	CYN	COL	CY	XCP/L	CAB
.200	-.23560	.03930	.03930	-.23750	.01624	-.00170	.00090	.00500	.70600	.03469
.200	-4.240	.03930	.03930	-.23750	.02175	-.00160	.00060	.00400	.73900	.03462
.200	-2.120	.02760	.03690	-.03660	.02414	-.00160	.00070	.00400	.69100	.03364
.200	-.020	.03690	.03610	.03560	.02228	-.00150	.00080	.00300	.25500	.03311
.200	.03460	.02350	.03610	.03560	.01625	-.00150	.00070	.00300	.54300	.03299
.200	.3170	.02360	.03640	.13320	.01268	-.00150	.00060	.00300	.56800	.03207
.200	.4140	.03150	.03630	.23150	.00637	-.00170	.00060	.00300	.60100	.03155
.200	.6290	.03150	.03690	.33110	-.00639	-.00200	.00060	.00300	.60600	.03155
.200	.32850	.04160	.03690	.43170	-.02251	-.00210	.00060	.00400	.61600	.03295
.200	.42660	.05630	.03950	.53300	.04015	-.01230	.00060	.00500	.62200	.03420
.200	.53090	.07720	.03930	.63300	-.03943	-.01360	.00090	.00300	.62800	.03584
.200	.63960	.10630	.03700	.64360	-.05943	-.01290	.00100	.00300	.63500	.03665
.200	.73710	.14700	.03050	.76750	-.07744	-.01290	.00060	.02700	.64200	.04007
.200	.86100	.22100	.01780	.86640	-.06975	-.01290	.00060	.02700	.64200	.04007
.200	.97020	.28660	.00930	1.00830	-.04116	-.01280	.00060	.02600	.64600	.04331
.200	.01090	.36950	.00210	1.12760	-.06506	-.00830	-.00320	.02200	.64900	.04760
.200	.10690	.46220	.00220	1.23610	-.09035	-.00440	-.00270	.01300	.64900	.05327
.200	.11560	.44700	.00220	1.23610	.00033	.00060	-.00060	-.00200	.64900	.05327
.200	.04624	-.00110	-.00013	.04665	.00003			-.00204	-.03849	-.00003

( 19 11 73 )

0231 R 707 MAF3 W07E25V7R6X9

### PARAMETRIC DATA

ALPHA =	.0001	BOFLAP =	.0001	- 0.0000
BETA =	.0001	ATLRON =	.0001	.0001
DELTA =	.0001	RUDDER =	.0001	.0001
ELEVON =	.0001			
FLAP =	.0001			
FLAPER =	.0001			
FLAPERON =	.0001			
FLAPERON2 =	.0001			
FLAPERON3 =	.0001			
FLAPERON4 =	.0001			
FLAPERON5 =	.0001			
FLAPERON6 =	.0001			
FLAPERON7 =	.0001			
FLAPERON8 =	.0001			
FLAPERON9 =	.0001			
FLAPERON10 =	.0001			
FLAPERON11 =	.0001			
FLAPERON12 =	.0001			
FLAPERON13 =	.0001			
FLAPERON14 =	.0001			
FLAPERON15 =	.0001			
FLAPERON16 =	.0001			
FLAPERON17 =	.0001			
FLAPERON18 =	.0001			
FLAPERON19 =	.0001			
FLAPERON20 =	.0001			
FLAPERON21 =	.0001			
FLAPERON22 =	.0001			
FLAPERON23 =	.0001			
FLAPERON24 =	.0001			
FLAPERON25 =	.0001			
FLAPERON26 =	.0001			
FLAPERON27 =	.0001			
FLAPERON28 =	.0001			
FLAPERON29 =	.0001			
FLAPERON30 =	.0001			
FLAPERON31 =	.0001			
FLAPERON32 =	.0001			
FLAPERON33 =	.0001			
FLAPERON34 =	.0001			
FLAPERON35 =	.0001			
FLAPERON36 =	.0001			
FLAPERON37 =	.0001			
FLAPERON38 =	.0001			
FLAPERON39 =	.0001			
FLAPERON40 =	.0001			
FLAPERON41 =	.0001			
FLAPERON42 =	.0001			
FLAPERON43 =	.0001			
FLAPERON44 =	.0001			
FLAPERON45 =	.0001			
FLAPERON46 =	.0001			
FLAPERON47 =	.0001			
FLAPERON48 =	.0001			
FLAPERON49 =	.0001			
FLAPERON50 =	.0001			
FLAPERON51 =	.0001			
FLAPERON52 =	.0001			
FLAPERON53 =	.0001			
FLAPERON54 =	.0001			
FLAPERON55 =	.0001			
FLAPERON56 =	.0001			
FLAPERON57 =	.0001			
FLAPERON58 =	.0001			
FLAPERON59 =	.0001			
FLAPERON60 =	.0001			
FLAPERON61 =	.0001			
FLAPERON62 =	.0001			
FLAPERON63 =	.0001			
FLAPERON64 =	.0001			
FLAPERON65 =	.0001			
FLAPERON66 =	.0001			
FLAPERON67 =	.0001			
FLAPERON68 =	.0001			
FLAPERON69 =	.0001			
FLAPERON70 =	.0001			
FLAPERON71 =	.0001			
FLAPERON72 =	.0001			
FLAPERON73 =	.0001			
FLAPERON74 =	.0001			
FLAPERON75 =	.0001			
FLAPERON76 =	.0001			
FLAPERON77 =	.0001			
FLAPERON78 =	.0001			
FLAPERON79 =	.0001			
FLAPERON80 =	.0001			
FLAPERON81 =	.0001			
FLAPERON82 =	.0001			
FLAPERON83 =	.0001			
FLAPERON84 =	.0001			
FLAPERON85 =	.0001			
FLAPERON86 =	.0001			
FLAPERON87 =	.0001			
FLAPERON88 =	.0001			
FLAPERON89 =	.0001			
FLAPERON90 =	.0001			
FLAPERON91 =	.0001			
FLAPERON92 =	.0001			
FLAPERON93 =	.0001			
FLAPERON94 =	.0001			
FLAPERON95 =	.0001			
FLAPERON96 =	.0001			
FLAPERON97 =	.0001			
FLAPERON98 =	.0001			
FLAPERON99 =	.0001			
FLAPERON100 =	.0001			

CONFIDENCE INTERVAL = -5.00, 5.00

[illegible]



0A21 017C7 M4F5 W107E23V7R0X9

## REFERENCE DATA

BARF	=	4.4119	90.FT.	100P	=	43.5974	INCHES
LEOF	=	18.2899	INCHES	Y4P	=	.0000	INCHES
BOOF	=	37.9399	INCHES	Z00P	=	16.2000	INCHES
SCALE	=	.0409	SCALE				

RUN NO. 11/0 RMZ = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## REFERENCE DATA

2027	=	4.4119	NO-ET	1000	=	43.5974	INC-ES
1927	=	19.2299	INC-ES	1000	=	.0000	INC-ES
2027	=	37.9359	INC-ES	2000	=	16.2000	INC-ES
SCALE	=	.0405	SCALE				

RUN NO.	12/ 0	RMS/L = 1.65	GRADIENT INTERVAL = -5.000/ 5.000
---------	-------	--------------	-----------------------------------

[illegible]

### PARAMETRIC DATA

(RDB-712) (09 JUL 73)

0421 R17C7 MAF5 WADT23VTR6X9

ALPHA =	15.000	BOFLAP =	-10.000
ELEVON =	.000	AILROW =	.000
VTLINC =	.000	RUDDER =	.000
SPOONK =	.000		

DATE 02 OCT 75

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 8

(RDP013) (09 JUL 75)

0A21 B17C7 MAFS W107E23V7R6X9

## REFERENCE DATA

SRDF = 4.4119 96.FT. XMRP = 43.5974 INCHES  
 LRDF = 19.2299 INCHES YMRP = .0000 INCHES  
 BRDF = 37.5339 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 13/ 0 RNU/L = 1.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CLF	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.260	-10.130	.94390	.29560	-.01220	1.00340	-.07002	-.02440	.01540	.19500	.65400	.04755
.280	5.060	.93720	.28920	.00370	.96770	-.07418	-.01900	.01460	.11300	.64700	.04249
.280	.000	.94690	.28670	.00990	1.00330	-.06003	-.01270	-.00690	.02670	.64600	.04288
.280	5.070	.94540	.27640	.02780	1.01960	-.09466	-.00390	-.01430	-.06700	.64700	.04291
.280	12.130	1.01160	.28240	-.00710	1.04550	-.10063	.00440	-.02620	-.16700	.65200	.04653
.280	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 20.000 DOFLAP = -18.000  
 ELEVON = .000 AILERON = .000  
 VTLINC = .000 RUDDER = .000  
 SPDRK = .000

0A21 B17C7 MAFS W107E23V7R6X9

(RDP014) (09 JUL 75)

## REFERENCE DATA

SRDF = 4.4119 96.FT. XMRP = 43.5974 INCHES  
 LRDF = 19.2299 INCHES YMRP = .0000 INCHES  
 BRDF = 37.5339 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 14/ 0 RNU/L = 1.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CLF	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.260	-10.130	.93670	.01160	.02470	-.03670	.01166	-.00320	-.00320	.16300	.69700	.03610
.280	5.070	.93230	.02140	.03310	-.03230	.02137	.00230	-.00410	.07300	.66300	.03326
.280	.000	.93990	.02490	.03610	-.06700	.02492	.00960	-.00550	-.01900	.66700	.03269
.280	5.060	.93520	.01950	.03270	-.05520	.01947	.01670	-.00650	-.11200	.66700	.03372
.280	10.120	.94340	.01060	.02650	-.04340	.01056	.02030	-.00430	-.19600	.67400	.03696
.280	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = .000 DOFLAP = -18.000  
 ELEVON = .000 AILERON = .000  
 VTLINC = .000 RUDDER = -7.500  
 SPDRK = .000



DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-703 0A21A

0A21 B17C7 MAFS W10723VTR8X9

PAGE 9

(RDP018) ( 09 JUL 73 )

REFERENCE DATA

BREF = 4.4119 50.FT. XMRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 16/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

	BETA	CL	CLF	CLM	CM	CAF	CYN	COL	CY	XCP/L	CAB
.260	-10.130	.44410	.03040	.02670	.44560	-.03109	-.00960	.01340	.17000	.62700	.03602
.260	-5.080	.43350	.05560	.03420	.43640	-.02407	-.00070	.01400	.07600	.62000	.03222
.260	.000	.42950	.05760	.03910	.43260	-.02136	.00790	-.00500	-.01300	.61800	.03196
.260	5.050	.43370	.05370	.03400	.43630	-.02594	.01520	-.01280	-.10600	.62100	.03443
.260	10.110	.44450	.04860	.02650	.44560	-.03269	.02050	-.02020	-.19300	.62700	.04057
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

BREF = 4.4119 50.FT. XMRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 16/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

	BETA	CL	CLF	CLM	CM	CAF	CYN	COL	CY	XCP/L	CAB
.260	-10.130	.71920	.12640	.01440	.72650	-.07372	-.01030	.01830	.17100	.64200	.03935
.260	-5.080	.70320	.12630	.02690	.71100	-.06944	-.00010	.00700	.07500	.63400	.03514
.260	.000	.70190	.12760	.03310	.71020	-.06761	.00630	-.01340	-.01000	.63200	.03500
.260	5.050	.70630	.12590	.02770	.71590	-.07135	.01260	-.01500	-.10500	.63500	.03646
.260	10.110	.72690	.12900	.01120	.73620	-.07500	.01990	-.02560	-.19200	.64400	.04094
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ALPHA = 15.000 BDFLAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = -7.500  
SPDRBK = .000

(RDP018) ( 09 JUL 73 )

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = -7.500  
SPDRBK = .000

0A2:1 817C7 MAF3 W107E23V7R6X9

(RDP-017) ( 09 JUL 73 )

**REFERENCE DATA**

DATE =	4.11.19 06.17.	YEAR =	43, 5972 INCHES
LINE =	19.2259 INCHES	YEAR =	.0000 INCHES
DATE =	57.9339 INCHES	YEAR =	10.2000 INCHES
SCALE =	.0405 SCALE		

RUN NO.	17/ 0	RMSL = 1.85	GRADIENT INTERVAL = -5.00/ 5.00
---------	-------	-------------	---------------------------------

[illegible]

## REFERENCE DATA

0077 =	4.4119	INCHES	0089 =	43.9974	INCHES
0027 =	19.2299	INCHES	Y009 =	.0000	INCHES
0047 =	37.9359	INCHES	Z009 =	16.2000	INCHES
SCALE =	.0003 SCALE				

RUN NO. 10/0 RUL = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

### PARAMETRIC DATA

ALPHA =	.000	BOFLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLINE =	.000	RUDGER =	-15.000
SPOBRK =	.000		

0429 B17C7 MAF3 W107E23V7R6X9

(01JDCR) (19 JUL 73)

TRANSLATED SOURCE DATA NAAL-705 0A21A

(100-019) (29 JUL 73)

Q21 817C7 MFS W107E23V7R6X9

## PARAMETRIC DATA

ALPHA =	10.000	BOFLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLINC =	.000	RUDDER =	-15.000
SPDRK =	.000		

CONFIDENTIAL - 5.00/ 5.00

MACRO	BETA	CL	CDF	CLM	CN	CAF	CYN	CBL	CY	KCP/L	CAB
-0.01	-10.140	.64030	.03233	.02973	.44260	-.00819	-.00060	.00920	.13100	.62300	.03757
-.260	-9.070	.67770	.05810	.03740	.43580	-.02635	.00920	-.00060	.03900	.61700	.03430
-.260	-.100	.42660	.06070	.04190	.43060	-.01741	.01720	-.00960	-.03200	.61300	.03375
-.260	5.050	.62900	.05720	.03720	.43250	-.02270	.02270	-.01680	-.12100	.61600	.03504
-.260	10.110	.44230	.09090	.10960	.44420	-.03009	.00670	-.02300	.62900	.62210	.04210
-.260								.00000	.00000	.00000	.00000

(RDEF:20) ( 09 JUL 79 )

121 817C7 MAF3 W107E23V7R6X9

### PARAMETRIC DATA

ALPHA =	15.0000	BOPLAP =	-18.0000
ELEVON =	.0000	AILRON =	.0000
VTLINC =	.0000	RUDDER =	-15.0000
SPOBRK =	.0000		

GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

DATE 02 OCT 73

REPORT ( 09 JUL 73 )

TABULATED SOURCE DATA NAAL-705 QAZ1A  
QAZ1 B17C7 MAFS V107E23V7R619

REFERENCE DATA

SREF = 4.4119 50.FT. XREF = 43.5974 INCHES  
LREF = 19.2299 INCHES YREF = .0000 INCHES  
BREF = 37.9359 INCHES ZREF = 16.2000 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 20.000 b. 71.17 = -18.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = -19.000  
SPDRK = .000

RUN NO. 21/ 0 RVAL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

WACH	BETA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-10.130	.90350	.29780	-.01080	1.00000	-.06761	-.00080	.00770	.16300	.63300	.04802
.200	-5.050	.93540	.28250	.00770	.99680	-.07033	-.00020	-.00430	.07600	.64600	.04572
.200	.000	.96960	.29150	.01120	1.00660	-.07552	.00740	-.01600	-.01200	.64500	.04514
.200	5.080	.96630	.28110	.00980	1.00150	-.08229	.01530	-.02400	-.10700	.64600	.04375
.200	10.120	1.00680	.28350	-.00670	1.04290	-.08078	.01950	-.03310	-.19400	.65200	.04726
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

QAZ1 B17C7 MAFS V107E23V7R619

REPORT ( 09 JUL 73 )

REFERENCE DATA

SREF = 4.4119 50.FT. XREF = 43.5974 INCHES  
LREF = 19.2299 INCHES YREF = .0000 INCHES  
BREF = 37.9359 INCHES ZREF = 16.2000 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 25.000

RUN NO. 22/ 0 RVAL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.230	-.28340	.04270	.04950	-.28580	.02312	-.00060	.00720	.00300	.71600	.03800
.200	-2.140	-.16620	.03550	.04790	-.16740	.02929	-.00100	.00010	.00300	.75300	.03622
.200	-.030	-.09690	.03150	.04750	-.08690	.03129	-.00100	.00010	.00200	.90300	.03585
.200	2.000	.02490	.02950	.04650	.02600	.02660	-.00090	.00020	.00200	-.01800	.03512
.200	4.130	.12620	.03190	.04630	.12820	.02272	-.00110	.00040	.00200	.51600	.03492
.200	6.230	.22040	.03700	.04620	.22310	.01286	-.00150	.00010	.00300	.57300	.03422
.200	8.330	.31960	.04590	.04660	.32250	-.00083	-.00150	.00000	.00300	.59600	.03439
.200	10.480	.42040	.06120	.04680	.42450	-.01606	-.00220	.00000	.00400	.60900	.03405
.200	12.560	.52570	.08200	.04670	.53100	-.03442	-.00250	.00000	.00400	.61700	.03590
.200	14.690	.63430	.11090	.04360	.64170	-.03357	-.00250	.00000	.00500	.62400	.03715
.200	16.790	.74970	.15100	.03750	.76130	-.07206	-.00260	.00010	.00500	.63100	.03654
.200	18.930	.85620	.22410	.02410	.86260	-.06575	-.01270	-.00650	.02700	.63900	.04254
.200	21.060	.96230	.28940	.01630	1.00210	-.07583	-.01270	-.00650	.02800	.64300	.04443
.200	23.170	1.06210	.36740	.00910	1.12100	-.08027	-.00810	-.00540	.02200	.64600	.04924
.200	25.290	1.15180	.44990	.00830	1.23360	-.08536	-.00460	-.00260	.01300	.64700	.05425
	GRADIENT	.04645	-.00132	-.00037	.04698	-.00007	-.00002	.00002	-.00014	-.05568	-.00035

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 13

(RDP023) ( 09 JUL 73 )

0A21 B17C7 MAFS W107E23V7R6X9

## REFERENCE DATA

MACH = 4.4119 58.FT. 300P = 43.5974 INCHES  
 LREF = 19.2299 INCHES YREF = .0000 INCHES  
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 23/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

## PARAMETRIC DATA

ALPHA = .000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPOBRK = 25.000

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.120	-.04460	.01800	.03200	-.04460	.01800	-.01970	.00420	.19500	.91300	.03927
.260	-5.070	-.09910	.02700	.04100	-.05920	.02697	-.01000	.00260	.09400	.90400	.03718
.260	.000	-.06810	.03110	.04580	-.06810	.03110	-.00100	.00020	.00300	.90100	.03550
.260	5.080	-.08310	.02640	.04180	-.06310	.02638	.00600	-.00070	-.06900	.60200	.03795
.260	10.120	-.04850	.01560	.03270	-.04850	.01584	.01680	-.00250	-.16900	.89400	.04040
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## REFERENCE DATA

MACH = 1.4119 58.FT. 300P = 43.5974 INCHES  
 LREF = 19.2299 INCHES YREF = .0000 INCHES  
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 24/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

## PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPOBRK = 25.000

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.140	.44030	.05340	.03180	.44260	-.02745	-.02220	.01980	.19300	.62300	.04076
.260	-5.070	.42950	.05960	.04060	.43320	-.01941	-.01230	.01000	.09900	.61500	.03544
.260	.010	.42150	.06130	.04680	.42560	-.01625	-.00190	.00000	.00400	.60900	.03479
.260	5.050	.42900	.05870	.04110	.43250	-.02023	.00740	-.00890	-.04900	.61400	.03750
.260	10.120	.44100	.05200	.03020	.44310	-.02893	.01720	-.01840	-.16600	.62400	.04256
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(RDP024) ( 09 JUL 73 )

**REFERENCE DATA**

YARP =	4.4119 INCHES	YARP =	4.5974 INCHES
LARP =	19.2209 INCHES	YARP =	.0000 INCHES
BREP =	37.9359 INCHES	ZARP =	16.2000 INCHES
SCALE =	.0403 SCALE		

RUN NO. 25/0 RN/L = 1.05 GRADIENT INTERVAL = 5.50

### PARAMETRIC DATA

ALPHA =	15.000	BDFAP =	15.000
ELEVON =	.000	AILRON =	.000
VTLLNC =	.000	RUDDER =	.000
SENSRK =	25.000		

[illegible]

## REFERENCE DATA

SECF =	4.4119	58. FT.	YARP =	43.5974	INCHES
LECF =	19.2259	INCHES	YARP =	.0000	INCHES
BREF =	37.9359	INCHES	ZARP =	16.2700	INCHES
SCALE =		.0005	SCALE		

GRIN NO. 26/0 R0/L = 1.05 GRADIENT INTERVAL = 5.037

## PARAMETRIC DATA

ALPHA =	20.000	BDFAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTILNC =	.000	RUDER =	.000
SONSON =	25.000		

[illegible]



DATE 02 OCT 73

TABULATED SURGE DATA NAAL-705 QAZ1A

PAGE 13

(RDF027) ( 09 JUL 73 )

QAZ1 B17C7 MAF5 MIDTEZ3VTR6X9

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XGRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YGRP = .0000 INCHES  
 BREF = 37.9399 INCHES ZGRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 27/ 0 RV/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.260	-10.140	-.04420	.03240	-.34420	.01761	-.00490	-.00100	.17300	.91900	.03976
.280	-5.070	-.06230	.04290	-.06230	.02773	.00160	-.00360	.07400	.90300	.03863
.280	-.020	-.06680	.04800	-.06680	.03267	.00960	-.00330	-.01800	.90600	.03667
.280	5.040	-.06600	.04260	-.06510	.02652	.01740	-.00630	-.11300	.88700	.04075
.280	10.120	-.05180	.03190	-.05180	.01681	.02540	-.00720	-.20800	.89700	.04236
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = .000 BOFLAP = -16.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = -7.500  
 SPOBRK = 25.000

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XGRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YGRP = .0000 INCHES  
 BREF = 37.9399 INCHES ZGRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 28/ 0 RV/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.260	-10.140	.44010	.03220	.44250	-.02716	-.01300	.01530	.17600	.62300	.04055
.280	-5.080	.42730	.04230	.43110	-.01837	-.00140	.00450	.07900	.61300	.03862
.280	.000	.42110	.04860	.42560	-.01467	.00800	-.00510	-.01300	.60700	.03546
.280	5.050	.42390	.04290	.42730	-.01815	.01670	-.01370	-.10800	.61200	.03706
.280	10.120	.43930	.03300	.44150	-.02803	.02410	-.02190	-.20000	.62200	.04376
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -16.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = -7.500  
 SPOBRK = 25.000

(RDF028) ( 09 JUL 73 )

QAZ1 B17C7 MAF5 MIDTEZ3VTR6X9

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 QAZ1A

PAGE 16

(RDP029) ( 09 JUL 73 )

QAZ1 B17C7 MAF5 M1G7E23VTR6X9

## REFERENCE DATA

SREF = 4.4119 98.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9339 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 29/ 0 RVL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.130	.71370	.12670	.01990	.72180	-.06992	-.01470	.02050	.17900	.63900	.04115
.260	-5.070	.69360	.13190	.03820	.70340	-.06116	-.00080	.00740	.07600	.62900	.03654
.260	.000	.68910	.13140	.04290	.69890	-.06045	.00700	-.00370	-.01100	.62700	.03816
.260	5.040	.69870	.12980	.03760	.70770	-.06460	.01360	-.01530	-.01000	.63000	.03971
.260	10.120	.72390	.13260	.01880	.73260	-.06891	.02320	-.02700	-.19900	.64000	.04265
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 15.000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTILINC = .000 RUDDER = -7.500  
 SPCBRK = 25.000

## REFERENCE DATA

SREF = 4.4119 98.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9339 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 30/ 0 RVL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.120	.96110	.29920	-.00800	1.00440	-.06598	-.02230	.01460	.15000	.65200	.04830
.260	-5.060	.94690	.29310	.01480	.96900	-.06636	-.01050	.00090	.09600	.64400	.04375
.260	.000	.96280	.29120	.01820	1.00310	-.07437	-.00250	-.01160	.00800	.64300	.04375
.260	5.060	.96120	.28160	.01690	1.01620	-.08961	.00670	-.01960	-.08900	.64300	.04322
.260	10.130	1.00310	.28500	.00000	1.03650	-.09506	.01550	-.03330	-.18300	.64900	.04968
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 20.000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTILINC = .000 RUDDER = -7.500  
 SPCBRK = 25.000

YARP =	4.4119	50.FT.	YARP =	43.3374	INCHES
LYRF =	19.2299	INCHES	YARP =	.0000	INCHES
ZARP =	37.9339	INCHES	ZARP =	16.2000	INCHES
SCALE =	.0405	SCALE			

RUN NO. 31/ D RN/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

CA21 B17C7 MAF5 W10TE2-V7R6X9

WREF =	4.4119 SQ.FT.	XWRP =	43.5974 INCHES
LYRF =	19.2299 INCHES	YWRP =	.0000 INCHES
ZWRP =	37.9359 INCHES	ZWRP =	16.2000 INCHES
SCALE =	.0405 SCALE		

RUN NO. 32/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]



## REFERENCE DATA

YREF =	4.4119 SQ.FT.	YARP =	43.9974 INCHES
LREF =	19.2299 INCHES	YARP =	.0000 INCHES
BREF =	37.9359 INCHES	ZARP =	16.2000 INCHES
SCALE =	.0405 SCALE		

0A21 B17C7 M4F9 W107E23V7R6X9

## PARAMETRIC DATA

BETA	=	.000	BOFLAP	=	-10.000
ELEVON	=	.000	AILRON	=	.000
VTLLNC	=	.000	RUDDER	=	.000
SENDER	=	85.000			

95% CONFIDENCE INTERVAL = -5.00% TO 5.00%

MACH	ALPHA	CL	CD	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.260	-4.240	-31.290	.08490	.10600	-31.040	.06156	-.00140	.00000	.001900	.77200	.06139
.260	-2.140	-21.470	.07620	.10430	-21.740	.06812	.00000	.00000	.001900	.82600	.05993
.260	-.030	-121.20	.07030	.10430	-121.30	.07027	-.00150	.00000	.004000	.96700	.05923
.260	2.010	-.02970	.06730	.10360	-.02370	.06840	-.00160	.00000	.104000	2.25800	.05618
.260	4.130	.06990	.06870	.10220	.07470	.06348	.00000	.00000	.003000	1.4600	.05580
.260	6.230	.16810	.07190	.10170	.17490	.05329	-.00130	.00000	.003000	.43300	.05469
.260	8.340	.26510	.07980	.10240	.27390	.04148	-.00160	.00000	.003000	.51200	.05431
.260	10.450	.36390	.09300	.10300	.37480	.02549	-.00160	.00000	.003000	.54800	.05287
.260	12.560	.48770	.11180	.10410	.48090	.01743	-.00190	.00000	.004000	.57000	.05376
.260	14.670	.5738	.13870	.10170	.59120	-.01114	-.00220	.00000	.004000	.58600	.05385
.260	16.800	.6947	.17760	.09430	.71640	-.03079	-.00220	.00000	.005000	.60100	.05462
.260	18.920	.79310	.24630	.08330	.83210	-.02463	-.01140	-.00060	.025000	.61200	.05807
.260	21.060	.90450	.30870	.07550	.95500	-.03694	-.01200	-.00000	.027000	.62700	.06188
.260	23.170	1.00780	.38470	.06840	1.07790	-.04282	-.00780	-.00150	.023000	.62600	.06611
.260	25.170	1.04568	.46197	-.00041	.04691	.00020	.00000	.00000	-.00024	.00780	-.00062

## REFERENCE DATA

99EF =	4.4119 SQ.FT.	XGRP =	43.5974 INCHES
LEEF =	19.2299 INCHES	YGRP =	.0000 INCHES
BREF =	37.9359 INCHES	ZGRP =	16.2000 INCHES
SCALE =	.0405 SCALE		

0A21 B17C7 M1F5 140723V7R6X9

### BIOPHOTOMETRIC DATA

```

ALPHA = .000)
ELEVON = .000)
VLLINC = .000)
SENSEX = 85.000)
BOFLAP = -18.000)
AILRON = .000)
RUDDER = .000)

```

COEFFICIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CDF	CLM	CN	CAF	CYN	CEL	CY	XCP/L	CAB
.260	-10.120	-.09630	.05300	-.08570	-.19640	.05493	-.01940	.001230	-.05000	.97600	.06135
.260	-5.060	-.11470	.06750	.10050	-.11470	.06746	-.00490	.000700	.09700	.97200	.06086
.260	.000	-.12040	.07020	.10460	-.12040	.07012	-.00130	.000200	.004000	.96900	.06043
.260	5.060	-.11780	.06350	.09930	-.11790	.06383	.00570	.000200	-.007000	.95900	.06416
.260	10.130	-.10040	.04950	.08520	-.10040	.04943	.01660	-.000120	-.100000	.96200	.06656
.260		.00000	.00000	.00000	.00000	.00000	.00000	.000000	.000000	.000000	.000000



(050439) (09 JUL 73)

Q2: B17C7 MAFS W107E23V7R6X9

**REFERENCE DATA**

SRCP =	4.4119	50. FT.	YARP =	43.5974	INCHES
LRCP =	19.2259	INCHES	YARP =	.0000	INCHES
BRCP =	37.9359	INCHES	ZARP =	19.2000	INCHES
SCALE =	.0405	SCALE			

ALPHA =	20.000	BOTLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLINC =	.000	RUGGER =	.000
SPODRK =	65.000		

GRADIENT INTERVAL = -5.00 9.00

[illegible]

## REFERENCE DATA

ORF = 4.4119 IN/FT.      YARP = 43.9974 IN/CHES  
 LRF = 19.2299 IN/CHES      YARP = .0000 IN/CHES  
 ORF = 37.9339 IN/CHES      ZARP = 16.2000 IN/CHES  
 SCALE = .0405 SCALE

ALPHA =	.0020	SOFLAP =	-10.0000
ELEVON =	.0020	AILRON =	.0000
VTLINC =	.0020	RUDDER =	-7.5000
SPRBRK =	85.0000		

GRADIENT INTERVAL = -5.00/ 5.00

BETA	CL	CLM	CM	CAF	CYN	CBL	CY	XCP/L	CAB
MACRO									
-10.140	-.09840	.03260	-.09850	.05276	-.01330	.00300	.18100	.95800	.00798
-.260							.07900	.95959	
-.260	-.11610	.06670	-.11620	.06665	-.00220	.00220	.07900	.95959	.00784
-.260	-.12050	.10310	-.12060	.07127	-.00150	.00150	.11200	.96400	.00740
-.260	-.11750	.09760	-.11750	.06457	.01200	.00240	.11200	.95500	.007174
-.260	-.10090	.05530	-.10090	.03022	.02210	.00330	.20200	.95700	.00505
10.100							.00300	.95700	.00000

DATE 02 OCT 75

TABULATED SOURCE DATA NAAL-705 OA21A

PAGE 22

(RDE041) ( 09 JUL 75 )

OA21 B17C7 MAF5 M107E23VTR6X9

## REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 41/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	COF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.280	-10.150	.36760	.06260	.08250	.39640	.01094	-.01480	.01560	.17800	.57500	.05716
.260	-5.060	.36740	.09420	.10290	.37640	.02589	-.00410	.01630	.06000	.54900	.05196
.280	-.010	.36620	.09260	.10150	.37700	.02453	.00290	-.00170	-.00700	.55720	.05341
.260	5.010	.37470	.06670	.09310	.38450	.01846	.01040	-.00940	-.00600	.56000	.05567
.280	10.100	.39410	.07770	.07750	.40160	.01469	.02140	-.01830	-.19300	.57600	.06244
	GRADIENT	.00000	.00700	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = -7.500  
 SPDBRK = 65.000

OA21 B17C7 MAF5 M107E23VTR6X9

(RDE042) ( 09 JUL 75 )

## REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 42/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	COF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.280	-10.150	.65570	.15630	.07790	.67400	-.02603	-.01440	.02040	.17600	.60700	.05372
.260	-5.060	.63530	.16200	.09990	.65340	-.01674	-.00360	.02680	.07900	.59300	.04994
.280	-.010	.63630	.15780	.09620	.65920	-.02116	.00190	-.00040	-.00300	.59500	.05327
.260	5.030	.64310	.15660	.09130	.66150	-.02415	.00370	-.01000	-.00500	.59900	.05426
.280	10.120	.67560	.15770	.06720	.63310	-.03212	.01640	-.02270	-.18300	.61400	.05657
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 15.000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = -7.500  
 SPDBRK = 65.000



TABULATED SOURCE DATA NAAL-703 QAZ1A  
 QAZ1 B17C7 WAF9 W10TE23V7R6X9

## REFERENCE DATA

SREY = 4.4119 80.FT.      YARP = 43.5974 INCHES  
 LREY = 19.2299 INCHES      YARP = .0000 INCHES  
 BREY = 37.9359 INCHES      ZARP = 10.2000 INCHES  
 SCALE = .0005 SCALE

42.2 0 004/1 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## REFERENCE DATA

BRG7 =	4.4119 INCHES	YARP =	43.9974 INCHES
LRG7 =	19.2299 INCHES	YARP =	.0000 INCHES
BRG7 =	37.9359 INCHES	ZARP =	16.2000 INCHES
SCALE =	.0405 SCALE		

RUP# NO. 44/0 RVL = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETER	BETA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
MAOCH											
	-10.130	-.09500	.05150	.07990	-.09990	.05143	-.00600	-.00200	.10500	.96500	.05984
.200									.00000	.96537	.05637
.200	-5.000	-.11640	.06090	.10030	-.11640	.06683	.00570	-.00570	.06700	.96570	.05615
.200	.000	-.11060	.07290	.10130	-.11060	.07219	.01190	-.00520	.02600	.96500	.05700
.200	5.000	-.11620	.09740	.11630	.09740	.06591	.01700	-.00450	-.11400	.95700	.05945
.200									-.20900	.96400	.06137
.200	10.130	-.10110	.05370	.08640	-.10110	.05366	.02500	-.00450	.00000	.96400	.06000
									.00000	.96400	.06000

## PARAMETRIC DATA

ALPHA =	.000	BOFLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLINE =	-	RUDEN =	-5.000
SFCORR =	85.000		

### PARAMETRIC DATA

ALPHA =	20.000	DELTA =	-10.000
ELEVON =	.000	AIRCON =	.000
VTLINC =	.000	RUGGER =	-7.500
SPEEDK =	85.000		

( 570-6381 ) ( 09 JUL 73 )

## PARAMETRIC DATA

ALPHA =	10.000	BOPLAN =	-10.000
ELEVON =	.000	ATLON =	.000
VTINC =	.000	RUGGER =	-15.000
SPDRK =	65.000		

**GRADIENT INTERVAL = -5.00/ 5.00**

MACH	BETA	CL	COF	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.260	-10, 110	.36440	.06300	.06200	.39970	.01152	-.00910	.01360	.16400	.57500	.09670
.260	.260	.36900	.09820	.10320	.37630	.02735	.00050	.02760	.07760	.54800	.09049
.260	-5, 070	.36900	.09820	.10320	.37630	.02623	.00720	-.00290	-.01600	.50050	.09150
.260	.000	.36490	.09390	.10100	.37590	.02623	.00720	.01080	.10500	.56100	.09367
.260	5, 040	.37470	.06620	.09220	.36450	.01661	.01420	.01080	.10500	.56100	.09367
.260	10, 110	.39530	.07810	.07720	.40140	.01532	.02370	.12110	.20900	.57900	.09700
.260						.00000	.00000	.00000	.00000	.00000	.00000

( 95 JUL 73 ) ( 8511208 )

### PARAMETRIC DATA

ALPHA =	15.000	BOFLAP =	-10.000
ELEVON =	.000	ATLRON =	.000
VTLINC =	.000	RUDDER =	-15.000
SENDER =	65.000		

GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 QAS1A

PAGE 25

(R09047) ( 09 JUL 73 )

QAS1 B17C7 MAP5 W107E23V7R619

## REFERENCE DATA

REF = 4.4119 98.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 47/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CEL	CY	KCP/L	CAB
.260	-10.110	.80240	.32040	.04620	.93750	-.02451	-.01890	.01390	.17900	.63100	.09449
.260	-5.050	.86610	.31560	.07700	.94250	-.02409	-.00960	.00250	.09000	.61900	.05496
.260	.000	.90750	.31130	.07350	.95660	-.03322	-.00420	-.02660	.00750	.62100	.09953
.260	5.050	.92780	.30150	.06990	.97420	-.05190	-.00190	-.01470	-.02500	.62500	.05763
.260	10.150	.95550	.30700	.04940	1.00200	-.05997	.00650	-.05000	-.17100	.63100	.03556
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 20.000 BOPLAP = -18.000  
 ELEVON = .000 ALLURON = .000  
 VTLINC = .000 RUDDER = -15.000  
 SPDRK = 85.000

QAS1 B17C7 MAP5 W107E23V7R619

(R09048) ( 09 JUL 73 )

## REFERENCE DATA

REF = 4.4119 98.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 48/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CEL	CY	KCP/L	CAB
.260	-4.250	-.28350	.06190	.07440	-.28740	.04075	-.00240	.00100	.00600	.74500	.04600
.260	-2.150	-.18650	.05390	.07550	-.18640	.04701	-.00240	.00060	.00600	.79500	.04521
.260	-.050	-.09060	.04910	.07240	-.09090	.04902	-.00230	.00070	.00500	.84200	.04467
.260	2.020	.00310	.04740	.07190	.04770	.04727	-.00230	.00060	.00500	-.4.67900	.04421
.260	4.150	.10140	.04840	.07200	.10460	.04104	-.00230	.00070	.00400	.39600	.04356
.260	6.250	.19940	.05320	.07180	.20400	.03123	-.00230	.00060	.00400	.52000	.04263
.260	8.350	.29650	.06290	.07250	.30250	.01921	-.00230	.00060	.00400	.56100	.04101
.260	10.460	.39560	.07660	.07250	.40310	.00345	-.00260	.00060	.00400	.58300	.04123
.260	12.560	.49940	.09680	.07250	.50850	-.01420	-.00290	.00060	.00400	.59700	.04200
.260	14.670	.61070	.12450	.07020	.62230	-.03446	-.00300	.00060	.00400	.60400	.04364
.260	16.600	.72490	.16300	.06300	.74100	-.05349	-.00340	.00060	.00400	.61800	.04455
.260	18.940	.82940	.23600	.05200	.86110	-.04596	-.00300	.00060	.00400	.62700	.04771
.260	21.050	.93610	.29980	.04400	.96150	-.05660	-.00320	.00060	.00400	.63300	.04996
.260	23.170	1.03790	.37680	.03610	1.10250	-.06209	-.00390	.00060	.00400	.63700	.05532
.260	25.300	1.12650	.45530	.03580	1.21500	-.06987	-.00540	.00060	.00400	.63800	.06015
	GRADIENT	.04568	-.00163	-.00031	.04675	.00004	.00000	.00000	.00000	-.30269	-.00028

## PARAMETRIC DATA

BETA = .000 BOPLAP = -18.000  
 ELEVON = .000 ALLURON = .000  
 VTLINC = .000 RUDDER = .000  
 SPDRK = 55.000

## REFERENCE DATA

WARP =	4.4119 SO.FT.	WARP =	43.9974 INCHES
LEAF =	19.2299 INCHES	WARP =	.0000 INCHES
WARP =	37.9359 INCHES	WARP =	16.2000 INCHES
SCALE =	.0405 SCALE		

GRADIENT INTERVAL = -3.00/3.00

[illegible]

## REFERENCE DATA

WHP =	4.4119 SQ.FT.	XHP =	43.9974 INCHES
LEP =	19.2299 INCHES	YHP =	.0000 INCHES
ZHP =	77.9359 INCHES	ZHP =	16.2000 INCHES
SCALE =	.0405 SCALE		

$\frac{BN}{V} = 1.85$  GRADIENT INTERVAL = -5.00' 5.10'

[illegible]

### PARAMETRIC DATA

ALPHA =	.000	BOFLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLLNC =	.000	RUDR =	.000
EDRBRK =	55.000		

## PARAMETRIC DATA

ALPHA =	10.000	BOPLAP =	-10.000
ELEVON =	.000	AILRON =	.000
VTLINC =	.000	RUDDER =	.000
SPOBRK =	55.000		

0A21 017C7 MAF3 WIDEE3VTR6X9

## REFERENCE DATA

BRP = 4.4119 98.FT.      YRP = 43.9974 INCHES  
 LRP = 19.2299 INCHES      YRP = .0000 INCHES  
 BRP = 37.9359 INCHES      ZRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 51/ 0 RM/L = 1.03 GRADIENT INTERVAL = -5.00V 5.00

[illegible]

## REFERENCE DATA

WHD	=	4.4119	INCHES	YWR	=	43.9974	INCHES
LWD	=	19.2299	INCHES	YWR	=	.0000	INCHES
WHD	=	37.9339	INCHES	ZWR	=	16.2000	INCHES
SCALE	=						

52/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## PARAMETRIC DATA

ALPHA =	20,000	SOFLAP =	-18,000
ELEVON =	.000	AILRON =	.000
VTLINC =	.000	RUDER =	.000
SPDRK =	55,000		

(250-000) (09 JUL 73)

CY	XCP/L	CAB
.20900	.64300	.05135
.11500	.63400	.04736
.02900	.63300	.05075
.06600	.63400	.05000
.16700	.64200	.05303
.00000	.00000	.00000

### PARAMETRIC DATA

## REFERENCE DATA

DRIFT =	4.4119 50.FT.	DRIP =	45.9974 INCHES
LEAF =	19.2299 INCHES	YARP =	.0000 INCHES
ORIF =	37.9339 INCHES	ZHP =	16.2000 INCHES
SCALE =	.0405 SCALE		

IN NO.	53/ 0	RV/L	1.65	GRADIENT INTERVAL =	-5.00/	5.00
--------	-------	------	------	---------------------	--------	------

[illegible]

## PARAMETRIC DATA

## REFERENCE DATA

DEPTH =	4.4119	50.FT.	YMRP =	43.5974	INCHES
DEPTH =	19.2299	INCHES	YMRP =	.0000	INCHES
DEPTH =	37.9359	INCHES	ZMRP =	16.2000	INCHES
SCALE =	.0405	SCALE			

RUN NO. 54/ 0 RV/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

0431 R17C7 M4F3 W10TE23V7R0X9

## PARAMETRIC DATA

ALPHA =	15.0000	BOPLAP =	-10.0000
ELEVON =	.0000	AILRON =	.0000
VTLINE =	.0000	RUDR =	-7.5000
SPDR =	55.0000		

CONFIDENTIAL - 3.00/1000 - 3.00/1000

[illegible]

## PARAMETRIC DATA

ALPHA =	20.000	BOFLAP =	-10.000
ELEVON =	.000	ATLRON =	.000
VTL INC =	.000	RUDGER =	-7.500
SPINRAT =	55.000		

--- = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

PARAM	BETA	CL	COF	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.110	.94240	.30890	.01380	.99030	-.05031	-.02370	.01530	.19200	.64400	-.03236
.260	-5.050	.92620	.30400	.04190	.97360	-.04903	-.01210	.01220	.09770	.63300	.04869
.260	.020	.93610	.30210	.04470	.96400	-.05536	-.00490	-.00690	.01190	.63300	.04912
.260	5.080	.96130	.29350	.03960	1.00290	-.07210	.01400	-.01730	.08400	.63300	.04823
.260	10.140	.96380	.28360	.02090	1.02430	-.07819	.01480	-.03260	-.18400	.64200	.03107
.260							.00000	.00000	.00000	.00000	.00000

CA21 817C7 MAF3 W1J7E23V7R6X9

( 25043M ) ( 09 JUL 73 )

## REFERENCE DATA

LUREF = 4.4159 SE. FT.      XDRP = 43.9974 INCHES  
 LURET = 19.2259 INCHES      YDRP = .0000 INCHES  
 DRREF = 17.9359 INCHES      ZDRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO.	57	0	RN/L =	1.65	GRADIENT INTERVAL =	-5.00/	5.00
---------	----	---	--------	------	---------------------	--------	------

## PARAMETRIC DATA

ALPHA	=	.000	BOSLAP	=	-10.000
ELEVON	=	.500	ATLRON	=	.000
VTLINC	=	.000	RUDDER	=	-15.000
SPDRBK	=	95.000			

[illegible]

DA21 B17C7 M4F5 W107E23V7R6X9

(RCP-158) ( 29 JUL 73 )

## REFERENCE DATA

BREF = 4.4119 SQ.FT.      XARP = 45.9974 INCHES  
 YREF = 19.2299 INCHES      YARP = .0000 INCHES  
 ZREF = 37.9559 INCHES      ZARP = 16.2031 INCHES  
 SCALE = .0015 SCALE

RUN NO.	58/0	RN/L =	1.85	GRADIENT INTERVAL =	-5.00/	5.00
---------	------	--------	------	---------------------	--------	------

### PARAMETRIC DATA

ALPHA =	10.000	BOFLAP =	-10.000
ELEVON =	.000	ATLACN =	.000
AVTLINC =	.000	RUGGER =	-15.000
SEDBRK =	55.000		

[illegible]





DATE 02 OCT 73 TABULATED SOURCE DATA NAAL-705 0421A

(RDP039) ( 09 JUL 73 )

0421 817C7 MAF5 M07E23V7R6X9

REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 59/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.120	.66900	.14060	.04360	.70140	-.03148	-.00730	.01720	.16300	.62600	.04565
.260	-5.060	.66740	.14520	.06820	.68180	-.04145	.00540	.00460	.06300	.61400	.01079
.260	.000	.66570	.14490	.06630	.67990	-.04156	.01160	-.00500	-.02200	.61200	.04274
.260	5.060	.67540	.14260	.06110	.68080	-.04615	.01760	-.01620	-.11000	.61700	.04432
.260	10.140	.70340	.14590	.04210	.71660	-.05076	.02640	-.02770	-.21600	.62000	.04732
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ALPHA = 15.000 BOFLAP = -18.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = -15.000  
SPDRK = 55.000

REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 60/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.130	.94250	.30960	.01470	.99060	-.04979	-.01560	.01220	.17600	.64400	.03171
.260	-5.070	.92310	.30460	.04290	.97100	-.04733	-.00420	-.00130	.06200	.63300	.04769
.260	.000	.94070	.30170	.04220	.96630	-.05676	.00270	-.01340	-.00400	.63400	.05021
.260	5.060	.93660	.29270	.03890	.99960	-.07196	.00970	-.02050	-.09700	.63500	.04906
.260	10.120	.97680	.29500	.02630	1.01760	-.07645	.01830	-.03480	-.19100	.64000	.05264
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ALPHA = 20.000 BOFLAP = -18.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = -15.000  
SPDRK = 55.000

(RDP060) ( 09 JUL 73 )

0421 817C7 MAF5 M07E23V7R6X9

DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-705 04214

PAGE 32

0421 B17C7 M4F5 W107E23V7R6X9

(RDP061) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 SREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
 ELEVON = 5.000 ATLCON = .000  
 VTLINE = .000 RUDDER = .000  
 SPDRK = 55.000

RUN NO. 61/ D RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	KCP/L	CAR
.260	-4.190	-1.070	.05740	.03540	-.20240	.04272	-.00160	.00190	.00300	.71400	.04824
.260	-2.090	-.10170	.05220	.03510	-.10360	.04853	-.00150	.00180	.00400	.77400	.04731
.260	.010	-.00750	.05060	.03430	-.00750	.05061	-.00150	.00180	.00300	2.33700	.04602
.260	2.090	.09010	.05190	.03360	.09190	.04858	-.00150	.00180	.00200	.51400	.04486
.260	4.190	.18750	.05520	.03260	.19080	.04140	-.00170	.00170	.00200	.56600	.04456
.260	6.300	.28320	.06340	.03250	.28340	.03197	-.00190	.00140	.00300	.60800	.04294
.260	8.390	.38160	.07550	.03250	.38860	.01972	-.00200	.00130	.00300	.61800	.04162
.260	10.500	.48170	.09100	.03300	.49030	.00172	-.00230	.00090	.00400	.62500	.04271
.260	12.630	.58260	.11440	.03270	.59370	-.01581	-.00240	.00100	.00400	.62900	.04269
.260	14.730	.69060	.14500	.02990	.70480	-.03539	-.00280	.00170	.00500	.63400	.04434
.260	16.850	.80710	.18710	.02240	.82670	-.05492	-.00310	.00220	.00500	.63900	.04636
.260	18.960	.90250	.26130	.01430	.93850	-.04615	-.00380	-.00130	.00500	.64400	.04985
.260	21.100	1.00970	.32920	.00650	1.06050	-.05645	-.00370	-.00170	.00500	.64700	.05223
.260	23.210	1.10410	.40880	.00070	1.17580	-.05955	-.00300	-.00040	.00500	.64900	.05785
.260	25.310	1.18390	.48770	.00310	1.27870	-.06535	-.00460	-.00420	.00500	.64800	.06278
.260	.046015	.00023	-.00023	-.00033	.04691	-.00012	.00001	-.00002	-.00038	-.02439	-.00047

GRADIENT

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-T03 0A21A

0A21 B17C7 MAF5 M107E23VTR0X9

PAGE 31

(RDP059) ( 09 JUL 73 )

REFERENCE DATA

SR07 = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LR07 = 19.2299 INCHES YMRP = .0000 INCHES  
 BR07 = 37.9399 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0403 SCALE

RUN NO. 59/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-10.120	.06900	.14000	.04360	.70140	-.05148	-.00750	.01720	.16300	.62000	.04585
.200	-5.080	.06740	.14520	.06620	.68180	-.04145	.00540	.07460	.06300	.61400	.04079
.200	.070	.06570	.14450	.06630	.67990	-.04156	.01160	-.00300	-.02200	.61200	.04274
.200	5.080	.06750	.14260	.06110	.68480	-.04615	.01760	-.01620	-.01000	.61700	.04432
.200	10.140	.07340	.14590	.04210	.71660	-.05076	.02640	-.02770	-.02000	.62800	.04732
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SR07 = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LR07 = 19.2299 INCHES YMRP = .0000 INCHES  
 BR07 = 37.9399 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0403 SCALE

RUN NO. 60/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-10.130	.04250	.30960	.01470	.99060	-.04979	-.01560	.01220	.17600	.64400	.05171
.200	-5.070	.02310	.30460	.04260	.97100	-.04733	-.00420	-.00130	.08200	.63300	.04769
.200	.010	.04070	.30170	.04220	.96630	-.05676	.00270	-.01340	-.00400	.63400	.05031
.200	5.060	.03660	.29270	.03690	.99960	-.07196	.00970	-.02050	-.00970	.63500	.04906
.200	10.120	.07660	.29500	.02630	1.01760	-.07645	.01830	-.03480	-.01910	.64000	.05264
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ALPHA = 20.000 BOPLAP = -16.000  
 ELEVON = .000 AILRON = .000  
 VTILNC = .000 RUDDER = -15.000  
 SPDRK = 55.000

(RDP060) ( 09 JUL 73 )

0A21 B17C7 MAF5 M107E23VTR0X9

DATE 02 OCT 73

TABULATED SOURCE DATA NAME-705 0A214

PAGE 32

0A21 817C7 MAP5 W07E23V7R0X9

(RDP061) ( 09 JUL 73 )

## REFERENCE DATA

SRDF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES  
LRDF = 19.2299 INCHES YMRP = .0000 INCHES  
BRDF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .0000 BODYLAP = -10.0000  
ELEVON = 5.0000 ALLKRN = .0000  
VTLINC = .0000 RUDDER = .0000  
SPDRK = 55.0000

RUN NO. 81/ 0 RW/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	COF	CLM	CM	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.190	-.19870	.03740	.03540	-.20240	.04272	-.00180	.00190	.00500	.71400	-.04824
.260	-2.060	-.10170	.03220	.03510	-.10360	.04853	-.00150	.00180	.00400	.77400	.04731
.260	.010	-.00790	.03060	.03430	-.00730	.05061	-.00150	.00180	.00300	2.33700	.04602
.260	2.090	.09010	.03190	.03360	.09190	.04858	-.00150	.00180	.00270	.51400	.04486
.260	4.190	.18730	.03200	.03260	.19060	.04140	-.00170	.00170	.00200	.58670	.04456
.260	6.300	.28320	.03340	.03290	.28840	.03197	-.00190	.00140	.00300	.60800	.04294
.260	8.390	.36160	.03550	.03290	.38860	.01902	-.00200	.00130	.00300	.61800	.04162
.260	10.500	.48170	.03100	.03300	.49030	.00172	-.00230	.00090	.00400	.62300	.04271
.260	12.630	.58260	.11440	.03270	.59370	-.01561	-.00240	.00100	.00400	.62900	.04269
.260	14.730	.69060	.14500	.02990	.70480	-.03539	-.00280	.00170	.00500	.63400	.04434
.260	16.850	.80710	.18710	.02240	.82670	-.05492	-.00310	-.00220	.00500	.63900	.04636
.260	18.960	.90250	.26130	.01430	.93850	-.04613	-.01380	-.00830	.00300	.64400	.04965
.260	21.100	1.00970	.32920	.00650	1.06050	-.05643	-.01370	-.00760	.00300	.64700	.05223
.260	23.210	1.10410	.40880	.00070	1.17560	-.05955	-.00830	-.00540	.00300	.64900	.05785
.260	25.310	1.18390	.48770	.00310	1.27870	-.06535	-.00460	-.00420	.00500	.64800	.06278
.260		.04605	-.00023	-.00033	.04691	-.00011	.00001	-.00002	-.00008	-.02439	-.00007

GRADIENT

DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-755 ON21A

PAGE 33

ON21 817CY MAP5 W07E23V7R819

(RDP062) ( 09 JUL 73 )

## REFERENCE DATA

REF = 4.4119 98.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0005 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOPLAP = -18.000  
 ELEVON = 10.000 AILRON = .000  
 VTLINC = .000 RUDDER = .000  
 SPOBRK = 55.000

RUN NO. 62/ 0 RUL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	QL	QDF	CLM	ON	CAF	CYN	COL	CY	KCP/L	CAB
.260	-4.090	-.06620	.05480	-.01620	-.09190	.04845	-.00120	.00130	.00400	.56400	.05310
.260	-2.010	.00350	.03270	-.01650	.00360	.05220	-.00130	.00130	.00400	2.29700	.05421
.260	.060	.10050	.05320	-.01760	.10060	.05308	-.00160	.00120	.00400	.71400	.05284
.260	2.160	.19760	.05810	-.01830	.19970	.05037	-.00170	.00110	.00400	.68300	.05076
.260	4.300	.29440	.06570	-.01840	.29650	.04344	-.00180	.00100	.00400	.67200	.04965
.260	6.370	.36660	.07700	-.01810	.39490	.03341	-.00210	.00070	.00500	.66600	.04729
.260	8.460	.48550	.09250	-.01660	.49370	.01993	-.00220	.00060	.00500	.66200	.04632
.260	10.610	.56460	.11260	-.01720	.59540	.00305	-.00240	.00050	.00500	.66000	.04632
.260	12.700	.60620	.13950	-.01600	.70010	-.01303	-.00260	.00120	.00600	.65900	.04693
.260	14.810	.79310	.17310	-.02090	.81100	-.03533	-.00290	.00180	.00540	.65900	.04857
.260	16.940	.91220	.21970	-.02970	.93670	-.06562	-.00280	.00200	.00540	.66100	.05077
.260	19.060	1.00370	.30130	-.03630	1.04718	-.04302	-.01460	-.00970	.03100	.66200	.05318
.260	21.270	1.10650	.37960	-.04300	1.16670	-.05166	-.01380	-.00770	.03000	.66300	.05542
.260	23.310	1.19310	.45910	-.04620	1.27740	-.09090	-.00710	-.00350	.01900	.66300	.06123
.260	25.400	1.26090	.53490	-.04290	1.36840	-.05767	-.00460	-.00560	.01400	.66100	.06596
.260	GRADIENT	.04565	.00133	-.00030	.04659	-.00036	-.00008	-.00004	-.00000	-.06880	-.00049

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 0421A

PAGE 34

Q421 B17C7 M4F5 M107E23V7R6X9

(RDP063) (09 JUL 73)

## REFERENCE DATA

BREF = 4.4119 50.FT. WARP = 43.5974 INCHES  
 LREF = 19.2299 INCHES WARP = .0000 INCHES  
 BREF = 37.9359 INCHES WARP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
 ELEVON = 15.000 AILRON = .000  
 VTLINE = .000 RUCCOR = .000  
 SPDRNK = 99.000

RUN NO. 63/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.020	.02100	.05750	-.06900	.01690	.03687	-.00160	.00110	.001500	2.12400	.05641
.260	-1.930	.11400	.05940	-.06800	.11200	.06321	-.00190	.00090	.001500	.87300	.05601
.260	-1.40	.20770	.06370	-.06950	.20780	.06324	-.00210	.00070	.001500	.77200	.05515
.260	2.250	.30130	.07190	-.06910	.30390	.06001	-.00250	.00080	.001500	.73300	.05279
.260	4.380	.39940	.06260	-.06940	.40450	.05206	-.00280	.00150	.001500	.71300	.05141
.260	6.480	.49150	.09710	-.06760	.49930	.04125	-.00330	.00140	.001500	.69900	.04974
.260	8.550	.58740	.11580	-.06720	.59810	.02717	-.00340	.00130	.001500	.69100	.04875
.260	10.650	.68770	.13970	-.06790	.70170	.01022	-.00390	.00180	.001500	.68500	.04800
.260	12.780	.79330	.17150	-.06940	.81130	-.00832	-.00370	.00170	.001500	.68100	.05012
.260	14.890	.89630	.20930	-.07230	.92000	-.02613	-.01330	-.00370	.001500	.67600	.05324
.260	17.020	1.00400	.27670	-.08090	1.04100	-.02947	-.01610	-.01290	.001500	.67600	.05611
.260	19.120	1.06890	.34230	-.08170	1.14100	-.03331	-.01900	-.01570	.001500	.67600	.06116
.260	21.230	1.18310	.42740	-.09040	1.23750	-.03014	-.00900	-.00770	.001500	.67400	.06499
.260	23.330	1.26270	.50580	-.08970	1.35970	-.03600	-.00680	-.00870	.001500	.66900	.06947
.260	25.450	1.31740	.57970	-.07910	1.43860	-.04289	-.00430	-.00870	.001500	.66900	.07263
.260		.04509	.00350	-.00019	.04619	-.00081	-.00012	.00203	.00029	-.14121	

GRADIENT

DATE 12 OCT 73

TABULATED SOURCE DATA NAAL-705 QAZ1A

PAGE 35

(RCP064) ( 09 JUL 73 )

QAZ1 B17C7 MAF5 W10723VTR6X9

## REFERENCE DATA

BRDF = 4.4119 94.17.  
 LREF = 19.2299 INCHES  
 BRDF = 37.9399 INCHES  
 SCALE = .0405 SCALE

BETA = .000  
 ELEVON = -5.000  
 VTLINE = .000  
 SPOBRK = 55.000

## PARAMETRIC DATA

RUN NO. 64/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.310	-.40390	.07220	.12750	-.40780	.04167	-.00150	.10260	.00500	.76400	.04246
.260	-2.220	-.30360	.06040	.12560	-.30570	.04660	-.00150	.00250	.00400	.80100	.04252
.260	-.140	-.20560	.05220	.12510	-.20590	.03175	-.00160	.00250	.00400	.87300	.04196
.260	1.970	-.10720	.04650	.12360	-.10550	.05023	-.00150	.00250	.00500	1.10000	.04176
.260	4.040	-.01550	.04530	.12390	-.01230	.04631	-.00150	.00260	.00500	4.34900	.04006
.260	6.160	.06330	.04670	.12420	-.06790	.03747	-.00150	.00240	.00200	.12900	.03667
.260	8.270	.16020	.05190	.12540	.16580	.02544	-.00140	.00240	.00100	.40100	.03813
.260	10.360	.27810	.06170	.12560	.28470	.01069	-.00160	.00200	.00200	.48700	.03764
.260	12.460	.36350	.07760	.12590	.39120	-.00711	-.00180	.00200	.00200	.53100	.03910
.260	14.590	.49310	.10140	.12230	.50280	-.02601	-.00190	.00230	.00200	.56000	.04030
.260	16.700	.60780	.13490	.11760	.62080	-.04540	-.00200	.00260	.00200	.58000	.04205
.260	18.830	.71560	.20100	.10960	.74240	-.04078	-.01050	-.00210	.01800	.59700	.04507
.260	20.960	.82390	.26070	.09770	.86450	-.05239	-.01120	-.00320	.02100	.60800	.04808
.260	23.060	.92700	.32420	.09420	.97990	-.06316	-.01100	-.00360	.02400	.61400	.05027
.260	25.210	1.01570	.40390	.08920	1.09590	-.06771	-.00510	-.00430	.01400	.61900	.05419
GRADIENT		.04655	-.00324	-.00044	.04745	.00052	.00000	-.00000	-.00024	.35616	-.00027

DATE 02 OCT 73

TABULATED SOURCE DATA NAL-705 0421A

PAGE 36

(RDP0085) ( 09 JUL 73 )

0421 817C7 M4F5 M107E23VTR639

## REFERENCE DATA

SERP = 4.4119 INCHES  
 LREF = 19.2299 INCHES  
 SERP = 37.9359 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000  
 ELEVON = -15.000  
 VTLINE = .000  
 SFCBRK = 55.000

BDCLAP = -16.000

AILRON = .000

RUDDER = .000

RUN NO. 65/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.470	-.60060	.10240	.21340	-.60680	.03526	-.00160	.00110	.00600	.77900	.03784
.260	-2.390	-.50130	.06390	.21030	-.50430	.06325	-.00160	.00160	.00600	.80300	.03852
.260	-.270	-.39860	.06980	.20670	-.39890	.06795	-.00170	.00010	.00600	.84000	.03816
.260	1.810	-.29670	.05690	.20450	-.29470	.06837	-.00170	-.00160	.00600	.90500	.03830
.260	3.920	-.19790	.03280	.20190	-.19390	.06823	-.00160	-.00140	.00600	1.03300	.03641
.260	6.040	-.09690	.04980	.20110	-.09110	.05974	-.00190	-.00290	.00600	1.46200	.03515
.260	8.140	.00270	.05300	.20180	.00910	.04921	-.00160	-.00390	.00600	-7.50200	.03419
.260	10.230	.09590	.05320	.20220	.10780	.03463	-.00250	-.00470	.00600	-.04000	.03474
.260	12.370	.20270	.06270	.20280	.21070	.01811	-.00260	-.00460	.00600	.29500	.03571
.260	14.470	.30830	.07910	.20240	.31830	-.00039	-.00260	-.00360	.00600	.41500	.03753
.260	16.630	.41850	.10430	.20170	.42890	-.01826	-.00260	-.00340	.00600	.47600	.03868
.260	18.690	.51340	.13400	.19830	.53570	-.01859	-.00260	-.00130	.00600	.51300	.04059
.260	20.800	.61540	.20170	.10380	.64690	-.02999	-.00260	-.00230	.00600	.53900	.04225
.260	22.910	.71580	.25610	.19160	.75900	-.04283	-.00260	-.00120	.00600	.55600	.04400
.260	25.040	.81700	.32170	.18710	.87640	-.05437	-.00260	-.00360	.00600	.57100	.04675
.260	GRADIENT	.04832	-.00595	-.00138	.04954	.00130	.00002	-.00031	.00000	.02917	-.00015



DATE 02 OCT 73

TABULATED SOURCE DATA NAL-705 0A21A

PAGE 37

(NDP068) ( 09 JUL 75 )

0A21 BIT7 MAF5 MDT23VTR619

## REFERENCE DATA

SREF = 4.4119 30.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0406 SCALE

## PARAMETRIC DATA

PETA = .000 BOFLAP = -18.000  
ELEVON = -20.000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDBRK = 55.000

RUN NO. 66/ 0 RW/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	COL	CY	KCP/L	CAB
.280	-4.500	-.60290	.12000	.24770	-.69030	.06601	-.00190	.00090	.00500	.78100	.03754
.280	-2.400	-.50640	.10110	.24620	-.59010	.07650	-.00180	.00060	.00500	.80300	.03678
.280	-.310	-.48910	.08400	.24360	-.48650	.08140	-.00190	.00060	.00500	.83300	.03609
.280	1.780	-.36890	.07020	.24200	-.36850	.08232	-.00190	.00070	.00500	.86000	.03561
.280	3.860	-.29220	.05990	.24140	-.28750	.07947	-.00180	.00060	.00400	.95800	.03528
.280	5.970	-.19790	.05320	.24290	-.19090	.07337	-.00180	.00060	.00300	1.11700	.03414
.280	8.070	-.10420	.04960	.24450	-.09620	.06399	-.00180	.00100	.00500	1.58500	.03298
.280	10.170	-.01040	.04960	.24680	-.00150	.05093	-.00200	.00120	.00500	-4.42800	.03368
.280	12.280	.08650	.05150	.24820	.09630	.03525	-.00230	.00170	.00500	-.27900	.03467
.280	14.390	.19740	.06900	.24810	.20640	.01775	-.00270	.00030	.00700	.21100	.03650
.280	16.520	.30410	.09010	.24740	.31710	-.00003	-.00230	-.00040	.00600	.36200	.03821
.280	18.630	.40640	.12050	.24900	.42360	-.01560	-.00230	-.00210	.00600	.43300	.03947
.280	20.760	.51520	.17950	.25070	.54360	-.01439	-.00900	-.00210	.01800	.48900	.04062
.280	22.870	.61260	.22930	.25610	.65370	-.02683	-.00690	-.00260	.01600	.51800	.04274
.280	24.970	.70290	.28160	.25510	.75570	-.04133	-.00700	-.00370	.01600	.53500	.04445
GRADIENT		.04664	-.00723	-.00060	.04829	.00157	.00200	-.00001	-.00010	.02061	-.00026

0A21 BITC7 MIF5 W07E23V7R6N9

(RDP087) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 50.FT. XRRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YRRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZRRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -10.000  
 ELEVON = -40.000 ALLRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPOBRK = 55.000

RUN NO. 67/ 0 RV/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.570	-76400	.18000	.26120	-.79650	.12497	-.00180	.00250	.00700	.77900	.03612
.200	-2.470	-.87500	.16190	.27120	-.68200	.13264	-.00280	.00180	.00900	.79600	.03687
.200	-.380	-.57020	.13990	.26480	-.57110	.13636	-.00260	.00200	.00900	.82000	.03945
.200	1.750	-.46310	.12240	.25790	-.45920	.13636	-.00240	.00190	.00800	.85800	.03904
.200	3.810	-.36080	.10630	.25160	-.35260	.13213	-.00260	.00190	.00800	.91200	.03655
.200	5.910	-.26460	.09960	.25320	-.25300	.12639	-.00220	.00240	.00600	1.01800	.03717
.200	8.010	-.17550	.09310	.25770	-.16080	.11673	-.00190	.00250	.00500	1.23900	.03677
.200	10.130	-.08320	.08950	.26170	-.06820	.10261	-.00100	.00430	.00400	2.10400	.03792
.200	12.290	.01360	.09280	.26350	.03290	.07165	-.00120	.00520	.00200	-2.29500	.03676
.200	14.360	.11410	.10320	.26540	.13620	.08761	-.00120	.00520	.00200	-.06700	.03970
.200	16.440	.23180	.12000	.26140	.25800	.09525	-.00220	.00300	.00400	.27600	.04100
.200	18.560	.32700	.16020	.26360	.36103	.04779	-.00500	.00340	.01100	.38100	.04242
.200	20.680	.40620	.19450	.27040	.45040	.03785	-.00700	.00260	.01500	.42800	.04429
.200	22.800	.49440	.23610	.27590	.54720	.02607	-.00680	.00090	.01500	.46500	.04657
.200	24.890	.57820	.27890	.27590	.64010	.01047	-.00320	-.00250	.01300	.49100	.04900
.200		.05054	-.07949	-.00346	.05299	.00086	-.00005	-.00005	.00005	.01554	.00005

GRADIENT

DATE 02 OCT 73

(NDP060) ( 09 JUL 73 )

0A21 B17C7 MAF3 V107E23V7R619

PARAMETRIC DATA

BETA = .000  
ELEVON = 10.000  
VTLLNC = .000  
SFCBRK = 95.000

REFERENCE DATA

SRF = 4.4119 SQ.FT.  
LREF = 19.2299 INCHES  
BRF = 37.9359 INCHES  
SCALE = .0405 SCALE

RUN NO. 66/ 0 RUL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.110	-.09010	.06050	-.01360	-.09420	.05369	.00050	.02230	-.01500	.59000	.03045
.200	-2.000	.00440	.05840	-.01400	.00240	.05881	.00070	.02280	-.01700	2.60400	.04996
.200	.000	.09910	.05940	-.01450	.09920	.05931	.00090	.02290	-.01900	.70300	.04914
.200	2.160	.19530	.06330	-.01510	.19750	.05593	.00100	.02290	-.02100	.67700	.04829
.200	4.240	.20680	.07100	-.01460	.29120	.04962	.00090	.02280	-.02300	.66800	.04569
.200	6.340	.30130	.08130	-.01410	.38800	.03866	.00100	.02240	-.02500	.66300	.04523
.200	8.490	.47960	.09660	-.01420	.48860	.02491	.00110	.02180	-.02600	.66000	.04400
.200	10.560	.50260	.11690	-.01580	.59420	.00793	.00090	.02190	-.02600	.65900	.04471
.200	12.700	.68400	.14420	-.01650	.69900	-.00967	.00060	.02320	-.02700	.65800	.04451
.200	14.870	.79300	.17940	-.01910	.81250	-.03010	.00050	.02480	-.02900	.65800	.04578
.200	16.930	.90680	.22540	-.02600	.93320	-.04847	.00030	.02480	-.03000	.66000	.04731
.200	19.050	.96360	.30170	-.02890	1.02820	-.03584	-.01220	.02790	.03000	.66000	.05273
.200	21.190	1.06510	.37240	-.03680	1.14640	-.04512	-.01210	.02790	.03200	.66100	.05555
.200	23.270	1.17990	.45750	-.04540	1.26470	-.04587	-.00750	.02990	-.03500	.66300	.06144
.200	25.370	1.23750	.53290	-.03680	1.34650	-.04886	-.00430	.02710	-.03800	.65900	.06583
GRADIENT		.04529	.00124	-.00015	.04630	-.00054	.00005	.02004	-.00096	-.09445	-.00052

DATE 02 OCT 73

TABULATED SOURCE DATA NAL-703 0A21A

(RDP069) ( 09 JUL 73 )

0A21 B17C7 MAF3 M10723V7R8X9

PARAMETRIC DATA

REFERENCE DATA

SREF = 4.4119 56.FT. XMRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE  
 BETA = .0000 BDFLAP = -10.000  
 ELEVON = 5.0000 AILRON = 10.000  
 VTILNC = .0000 RUDDER = .0000  
 SPDSRK = 55.0000

RUN NO. 69/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.170	-1.9340	.07100	.03660	-1.9810	.05676	.00460	.04210	-.03300	.71700	.04768
.260	-2.070	-.09700	.06770	.03750	-.09940	.06418	.00340	.04250	-.03700	.76800	.04635
.260	.020	.00260	.06350	.03480	.00290	.06532	.00390	.04260	-.03900	-3.74300	.04703
.260	2.120	.10500	.06860	.03060	.10750	.06487	.00650	.04110	-.04200	.54400	.04481
.260	4.200	.21400	.07310	.02360	.21950	.05722	.00340	.03780	-.04000	.61000	.04450
.260	6.320	.31600	.08270	.02100	.32320	.04736	.00370	.03660	-.04300	.62500	.04323
.260	8.430	.40700	.09370	.02360	.41640	.03305	.00620	.03860	-.04800	.62800	.04261
.260	10.540	.49600	.10820	.02840	.50770	.01662	.00660	.04150	-.05300	.62900	.04228
.260	12.650	.59630	.13240	.02950	.61090	-.00146	.00730	.04300	-.05700	.63200	.04286
.260	14.760	.69650	.16360	.02970	.71710	-.01956	.00780	.04500	-.06100	.63400	.04302
.260	16.860	.80940	.20420	.02310	.83360	-.03939	.00770	.04630	-.06200	.63900	.04511
.260	18.970	.88590	.27560	.02030	.92740	-.02738	-.00150	.05120	-.03200	.64100	.05063
.260	21.110	.95560	.34280	.01210	1.05240	-.03902	-.00610	.03210	-.03200	.64500	.05566
.260	23.220	1.00310	.42100	.00560	1.16140	-.04029	-.00320	.03040	-.03500	.64800	.05769
.260	25.310	1.14930	.49490	.01190	1.25060	-.04407	-.00280	.02730	-.03500	.64600	.06259
GRADIENT		.04866	.07725	-.00156	.04979	.00000	.00013	-.00048	-.00079	-.02189	-.00038



DATE 02 OCT 73 TABULATED SOURCE DATA NUAL-703 ONE-H

(RDPDFO) ( 09 JUL 73 )

042: B1TC7 MAF3 W07E23VTRKX9

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000  
ELEVON = .000 AILRON = 15.000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000

REFERENCE DATA

SREF = 4.4119 96.FT. XMRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 70/ 0 RNVL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.240	-.28230	.06240	.07040	-.28790	.06135	.00690	.05960	-.04600	.73900	.04483
.200	-2.130	-.10450	.07710	.07360	-.18920	.07015	.00940	.06010	-.04900	.79300	.04521
.200	-.030	-.09050	.07330	.07320	-.08780	.07324	.01000	.06020	-.05400	.94700	.04346
.200	2.030	.00500	.07160	.07390	.00750	.07160	.01060	.06090	-.05900	-2.95600	.04403
.200	4.130	.10020	.07260	.07370	.10520	.06544	.01140	.06100	-.06200	.39100	.04246
.200	6.240	.19560	.07740	.07350	.20290	.05572	.01220	.06190	-.06700	.51600	.04200
.200	8.340	.29130	.06650	.07340	.30060	.04337	.01290	.06240	-.07100	.56000	.04066
.200	10.450	.39110	.09690	.07360	.40250	.02630	.01360	.06320	-.07600	.58200	.04245
.200	12.560	.49190	.12000	.07340	.50630	.01016	.01450	.06440	-.08200	.59600	.04123
.200	14.690	.60190	.14660	.07100	.61990	-.00673	.01450	.06370	-.08600	.60700	.04216
.200	16.800	.71390	.16610	.06630	.73720	-.02628	.01520	.06660	-.09100	.61600	.04393
.200	18.900	.79240	.23390	.06900	.83160	-.01691	.00160	.05240	-.08200	.62100	.04616
.200	21.010	.89430	.31360	.05690	.94730	-.02600	.00000	.05290	-.08600	.62700	.05151
.200	23.130	.96680	.37760	.05460	1.05770	-.04127	-.00150	.05140	-.05500	.63000	.05514
.200	25.240	1.06180	.44970	.05750	1.15220	-.04616	-.00010	.04540	-.05300	.63100	.05640
.200		.04570	-.00117	.00133	.04694	.00246	.00031	.00017	-.00201	-.20961	-.00026

0A21 B17C7 MAF5 M107E23VTR6V9

(RDP071) ( 09 JUL 75 )

## REFERENCE DATA

SREF = 4.4119 56.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BDFLAP = -10.000  
 ELEVON = -10.000 ALLORN = 15.000  
 VTLINE = .000 RUDDER = .000  
 SPDERR = 55.000

RUN NO. 71/ 0 RNU/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CBL	CY	XCF/L	CAB
.260	-4.360	-.45120	.10040	.14560	-.45760	.06368	.01000	.04960	-.02600	.76600	.03736
.260	-2.260	-.35640	.08950	.14840	-.35970	.07341	.01010	.05080	-.03100	.80100	.03748
.260	-1.160	-.26010	.08030	.14840	-.26030	.07960	.01070	.05130	-.03500	.83900	.03650
.260	1.930	-.16360	.07190	.14740	-.16110	.07743	.01130	.05210	-.03900	.98600	.03733
.260	4.020	-.06980	.06760	.14740	-.06470	.07231	.01240	.05330	-.04500	1.48800	.03729
.260	6.120	-.02640	.06610	.14650	-.03330	.06296	.01320	.05360	-.05000	-.96700	.03640
.260	8.230	.12240	.06820	.14720	.13090	.05005	.01420	.05500	-.05500	.23500	.03718
.260	10.320	.21620	.07620	.14910	.22640	.03827	.01530	.05570	-.05900	.40700	.03656
.260	12.450	.31790	.08980	.15100	.32970	.01914	.01620	.05650	-.06400	.48100	.03808
.260	14.530	.42380	.11190	.14980	.43840	.00195	.01710	.05680	-.06800	.52400	.03844
.260	16.660	.53760	.14290	.14480	.55610	-.01722	.01740	.05660	-.07200	.53300	.04067
.260	18.760	.63000	.20300	.13980	.66180	-.011045	.00720	.05360	-.05400	.57200	.04399
.260	20.950	.73370	.25650	.13480	.77700	-.022015	.00520	.05390	-.05200	.58500	.04766
.260	23.020	.83600	.31540	.13430	.89280	-.03659	.00430	.05560	-.05000	.59400	.05061
.260	25.140	.92580	.38070	.13170	.99530	-.04655	.00290	.05430	-.04700	.60100	.05338
.260		.04555	-.00397	.00012	.04690	.00073	.00029	.00040	-.00200	.07751	-.00001

GRADIENT

CA21 01707 W2M4F5 W107E23VTR6X9

(RDP:172) ( 26 JUL 75 )

## REFERENCE DATA

94EF = 4.4119 94.FT.      XRP = 43.5974 INCHES  
 14EF = 19.8299 INCHES      YRP = .5000 INCHES  
 64EF = 37.9359 INCHES      ZRP = 16.2500 INCHES  
 SCALE = .0405 SCALE

BETA	=	.000	BDFLAP	=	-10.0000
ELEVON	=	.000	AILRON	=	.000
VTLINE	=	.000	RUDDER	=	.000
SPOBRK	=	99.000	CANARD	=	.0000

Sum of Squares = 1.85 Gradient Interval = -5.00/ 5.00

HAION	ALPHA	CL	COF	CLN	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.200	-.20050	.06200	.07120	-.29030	.04049	-.00210	.00090	.00600	.73600	.04603
.260	-2.190	-.05400	.05400	.07160	-.19490	.04666	-.00210	.00090	.00600	.76900	.04656
.260	-.000	-.06240	.05020	.07300	-.05013	.05013	-.00220	.00090	.00600	.94000	.04455
.260	1.990	.00350	.04810	.07440	.00460	.04803	-.00210	.00090	.00600	-.5.19100	.04418
.260	4.090	.05060	.05060	.07690	.10270	.04340	-.00240	.00090	.00500	.37400	.04227
.260	6.200	.19750	.05320	.07850	.20230	.03335	-.00240	.00070	.00400	.50600	.04141
.260	8.300	.29610	.06370	.08070	.30220	.02026	-.00250	.00080	.00300	.55100	.04146
.260	10.420	.39940	.07750	.08230	.40660	.00402	-.00260	.00080	.00300	.57500	.04162
.260	12.520	.50370	.09740	.08440	.51280	-.01405	-.00360	.00040	.00600	.58900	.04244
.260	14.660	.61450	.12590	.08370	.62640	-.03376	-.00360	.00090	.00600	.60000	.04326
.260	16.770	.73000	.16350	.08050	.74610	-.05412	-.00420	.00180	.00600	.61000	.04571
.260	18.910	.83640	.23720	.07100	.86910	-.04663	-.01390	-.00550	.00600	.61900	.04731
.260	21.020	.94660	.30140	.06450	.99190	-.05633	-.01350	-.00580	.00600	.62500	.05161
.260	23.160	1.05340	.36190	.03760	1.11640	-.06386	-.00480	-.00420	.02100	.63000	.05558
.260	25.310	1.15040	.46270	.03460	1.23610	-.07382	-.00640	-.00320	.01500	.63000	.06161
GRADIENT		.04626	-.03133	.00077	.04711	.00034	-.00004	-.00001	-.00014	-.51931	-.00067

## REFERENCE DATA

SRP =	4.4119	50.FT.	SRP =	43.5974	INCHES
LRP =	19.2299	INCHES	YRP =	.0000	INCHES
BRP =	37.9359	INCHES	ZRP =	16.2000	INCHES
SCALE =	.0015 SCALE				

ALPHA =	.000	BOFLAP =	-10.000
ELEVON =	.000	ATLRON =	.000
VTLINE =	.000	RUDDER =	.000
SFCBRK =	55.000	CANARD =	.000

$\Delta \ln \rho = 0$      $\Delta \ln \rho = 1.05$      $\Delta \ln \rho = -5.00$      $\Delta \ln \rho = -5.00$      $\Delta \ln \rho = -5.00$

[illegible]

0A21 B17C7 M2M4F5 W1J7E23VTR6X9

### REFERENCE DATA

SPCF =	4.4119	SQ.FT.	XMRP =	43.9974	INCHES
LFET =	19.2299	INCHES	YMRP =	.0000	INCHES
ZMRF =	37.9359	INCHES	ZMRP =	16.2000	INCHES
SCALE =	.0005 SCALE				

RUN NO. 74/ 3 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## REFERENCE DATA

SRF =	4.4119	Sq.Ft.	YARP =	43.9974	INCHES
UGF =	19.2599	INCHES	YARP =	.0000	INCHES
ORF =	7.9359	INCHES	ZARP =	16.2000	INCHES
SCALE =	.0405	SCALE			

RUN NO. 75/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

PARAM	BETA	CL	CDF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.0000	-10.120	.69130	.14400	.06150	.70450	-.04876	-.02190	.02590	-.19400	.61700	.04429
.260			.14500	.07490	.69390	-.04388		.01320	.09100	.61000	.04320
.260	-5.050	.67980					-.04388				
.260		.67390	.14500	.08210	.68800	-.04311	-.04040	.00180	.00700	.60500	.04388
.260	.010										
.260		.67390	.14500	.08210	.68800	-.04311	-.04040	.00180		.61200	.04844
.260	5.060	.68520	.14120	.07160	.69780	-.04982	.00070	-.01010	-.07600		
.260		.70720	.14340	.05250	.71960	-.03388	.00190	-.02320	-.17600	.62200	.05131
.260	-10.120	.69130	.14400	.06150	.70450	-.04876	.00000	.00000	.00000	.00000	.00000

### PARAMETRIC DATA

ALPHA =	15.000	BOFLAP =	-18.000
ELEVEN =	.000	AILRON =	.000
VLTINC =	.000	RUDDER =	.000
SFDRBK =	55.000	CANARD =	.000

QA21 B17C7 H2M4F5 W107E23V7R6X9

### PARAMETRIC DATA

ALPHA =	15.000	BOFLAP =	-18.000
ELEVEN =	.000	AILRON =	.000
VLTINC =	.000	RUDDER =	.000
SFDRBK =	55.000	CANARD =	.000





DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-703 0A21A

(RDF076) ( 09 JUL 73 )

0A21 B17C7 KEMAFS W107E23VTR6X9

## REFERENCE DATA

BREF = 4.4119 56.17. XMRP = 43.9974 INCHES  
LREF = 19.7299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 76/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

	BETA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
MACH											
.200	-10.110	.94740	.31310	.03670	.99870	-.04837	-.05920	.01970	.20700	.63800	.03212
.200	-9.070	.93993	.30820	.05450	.99780	-.05026	-.01860	.00700	.11100	.62900	.03058
.200	.000	.94520	.30800	.06480	.99000	-.05818	-.01330	-.00590	.02600	.62300	.03021
.200	5.040	.94360	.29340	.05450	1.01110	-.07345	-.00730	-.01380	-.06300	.62900	.03314
.200	10.120	.99430	.29430	.03650	1.03360	-.08356	.00140	-.02730	-.16600	.63600	.03902
.200			.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## REFERENCE DATA

BREF = 4.4119 56.17. XMRP = 43.9974 INCHES  
LREF = 19.7299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 77/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
MACH											
.200	-4.210	-.24570	.05960	.07180	-.24940	.04149	-.00230	.00790	.00600	.75500	.02236
.200	-2.100	-.14880	.05400	.07280	-.15060	.04832	-.00250	.00100	.00600	.62700	.02276
.200	-.010	-.05350	.05030	.07310	-.05360	.05031	-.00260	.00790	.00600	1.15100	.02360
.200	2.060	.04190	.05020	.07270	.04370	.04877	-.00260	.00110	.00600	.03800	.02316
.200	4.180	.13600	.05270	.07280	.14150	.07253	-.00250	.00140	.00500	.46000	.02281
.200	6.290	.23540	.05880	.07240	.24040	.03268	-.00260	.00080	.00400	.53800	.02295
.200	8.390	.33460	.06900	.07200	.34110	.01947	-.00280	.00030	.00300	.57200	.02369
.200	10.480	.43460	.08340	.07200	.44250	.00309	-.00340	.00030	.00300	.56900	.02400
.200	12.610	.53940	.10580	.07230	.54950	-.01454	-.00370	.00030	.00300	.60100	.02468
.200	14.720	.63180	.13650	.06910	.66510	-.03365	-.00370	.00030	.00300	.61100	.02504
.200	16.890	.76340	.17700	.06420	.78190	-.04125	-.00340	.00030	.00300	.61900	.03056
.200	18.980	.86540	.25370	.04930	.90790	-.05157	-.00340	.00030	.00300	.62900	.03224
.200	21.090	.96960	.31860	.04210	1.01930	-.05970	-.00340	.00030	.00300	.63400	.03557
.200	23.200	1.06040	.39790	.03630	1.13140	-.05208	-.00340	.00030	.00300	.63700	.04023
.200	25.310	1.14180	.47570	.03630	1.23560	-.03826	-.00370	.00030	.00300	.63600	.04004
.200			.00064	.00007	.04657	.00011	-.00242	.00000	.00000	-.06370	.00000

(RDF077) ( 09 JUL 73 )

## PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDBRK = 55.000

0A21 B17C7 F5 W107E23VTR6X9

## REFERENCE DATA

BREF = 4.4119 56.17. XMRP = 43.9974 INCHES  
LREF = 19.7299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 77/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
MACH											
.200	-4.210	-.24570	.05960	.07180	-.24940	.04149	-.00230	.00790	.00600	.75500	.02236
.200	-2.100	-.14880	.05400	.07280	-.15060	.04832	-.00250	.00100	.00600	.62700	.02276
.200	-.010	-.05350	.05030	.07310	-.05360	.05031	-.00260	.00790	.00600	1.15100	.02360
.200	2.060	.04190	.05020	.07270	.04370	.04877	-.00260	.00110	.00600	.03800	.02316
.200	4.180	.13600	.05270	.07280	.14150	.07253	-.00250	.00140	.00500	.53800	.02281
.200	6.290	.23540	.05880	.07240	.24040	.03268	-.00260	.00080	.00400	.57200	.02369
.200	8.390	.33460	.06900	.07200	.34110	.01947	-.00280	.00030	.00300	.56900	.02400
.200	10.480	.43460	.08340	.07200	.44250	.00309	-.00340	.00030	.00300	.60100	.02468
.200	12.610	.53940	.10580	.07230	.54950	-.01454	-.00370	.00030	.00300	.61100	.02504
.200	14.720	.63180	.13650	.06910	.66510	-.03365	-.00370	.00030	.00300	.61900	.03056
.200	16.890	.76340	.17700	.06420	.78190	-.04125	-.00340	.00030	.00300	.62900	.03224
.200	18.980	.86540	.25370	.04930	.90790	-.05157	-.00340	.00030	.00300	.63400	.03557
.200	21.090	.96960	.31860	.04210	1.01930	-.05970	-.00340	.00030	.00300	.63700	.04023
.200	23.200	1.06040	.39790	.03630	1.13140	-.05208	-.00340	.00030	.00300	.63600	.04004
.200	25.310	1.14180	.47570	.03630	1.23560	-.03826	-.00370	.00030	.00300	-.06370	.00000

## REFERENCE DATA

SREF = 4.4122 SQ.FT. XRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YRP = .0000 INCHES  
BREF = 37.9399 INCHES ZRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO.	78/ D	RN/L = 1.65	GRADIENT INTERVAL = -5.00/ 5.00
---------	-------	-------------	---------------------------------

[illegible]

### REFERENCE DATA

SECF =	4.4119	sq.ft.	YARP =	43.5974	INCHES
LNCF =	19.2299	INCHES	YARP =	.0000	INCHES
ENCF =	37.9399	INCHES	ZARP =	16.2000	INCHES
SCALE =	.0005	SCALE			

RUN NO. 73/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## PARAMETRIC DATA

ALPHA	=	10.000	BOFLAP	=	-10.000
ELEVON	=	.000	AILRON	=	.000
VTLINC	=	.000	RUDDER	=	.000
SPOBRK	=	55.000			

CY	XCP/L	CAB
.19500	.60400	.02502
.09700	.99500	.02291
.00300	.59000	.02434
-.00200	.59600	.02498
-.10200	.60600	.02796
.00000	.00000	.00000

TABLE 1. TYPE SOURCE DATA NAAL-705 Q121A

CA21 B17C7 F3 WJDT23V7R6X9

## REFERENCE DATA

YARP =	4.4119 INCHES	YARP =	43.9974 INCHES
YARP =	19.2299 INCHES	YARP =	.0000 INCHES
YARP =	37.9339 INCHES	YARP =	18.2000 INCHES
SCALE =	.0405 SCALE		

GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## REFERENCE DATA

WHD	=	4.4119	INCHES	WHP	=	43.9974	INCHES
LWD	=	19.2259	INCHES	YHP	=	.0000	INCHES
SDP	=	37.9359	INCHES	ZHP	=	16.2000	INCHES
SCALE	=	.0405	SCALE				

$\sigma_1 / \sigma_2 = 1.65$  GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## PARAMETRIC DATA

ALPHA =	20.000	BOFLAP =	-10.000
ELEVON =	.000	ATLRON =	.000
VTLINC =	.000	RUGGER =	.000
SPDRK =	55.000		

Q43: A17C7 F5 W107E23V7R6X9

(16/08/2019) (29 JUL 73)





TABULATED SOURCE DATA NAAL-755 Q121A

**PAGE 49**

Q421	B17C7	F3	WJGTE23	X9

(R00004) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XGRP = 43,5974 INCHES  
LREF = 19.2299 INCHES YGRP = .0000 INCHES  
BREF = 37.9339 INCHES ZGRP = 16.2000 INCHES  
SCALE = .0405 SCALE

ALPHA =	10.000	BDPLAP =	-10.000
ELEVON =	.000	AIRCON =	.000

### PARAMETRIC DATA

RUN NO. 04/0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MAOH	BETA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.110	.47490	.06140	.03010	.47810	-.02816	.02340	.00600	.06400	.00600	.02313
.260	-5.030	.47200	.06060	.03540	.47320	-.02627	.01250	.00290	.03300	.62000	.01712
.260	-.020	.47190	.05990	.03730	.47300	-.02714	-.00010	-.00030	.00000	.62000	.01613
.260	5.030	.47650	.05950	.03430	.47940	-.02635	-.01260	.00330	.01300	.62300	.01669
.260	10.110	.47960	.05960	.03030	.48240	-.02665	-.00670	.00000	.06200	.62600	.02421
CALCULATED			.00000	.00000	.00000		.00000	.00000	.00000	.00000	.00000

0A21	817C7	F5	W107E23	X9
------	-------	----	---------	----

(RCP-365) (29 JUL 73)

## REFERENCE DATA

BRD7 =	4.4119	SA.FT.	YARP =	43.9974	INCHES
LRD7 =	19.2259	INCHES	YARP =	.0000	INCHES
BRD7 =	37.9399	INCHES	ZARP =	16.2000	INCHES
SCALE =	.0403	SCALE			

```
ALPHA = 15.0000  B0FLAP = -10.0000
ELEVON = .0000  AIRRON = .0000
```

## PARAMETRIC DATA

RUN NO. 05/ 0 RNL = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## TABULATED SOURCE DATA MAIL-T05 0A21A

(RDP006) ( 09 JUL 73 )

0A21 B17C7 F5 M107E23 X9

## REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 06/ 0 RNL = 1.85 GRADIENT INTERVAL = -5.00V 5.00

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	KCF/L	CAB
.260	-10.110	.9930	.31340	-.00190	1.00790	-.03190	.02430	-.00420	.06800	.65000	.03095
.260	-5.080	.97520	.31010	.00370	1.02150	-.06125	.00390	-.00740	.05500	.64800	.02707
.260	.000	1.00000	.30990	.00680	1.04780	-.07645	-.01220	-.00920	.02800	.64700	.02374
.260	5.030	1.02980	.30740	.00560	1.06860	-.09069	-.02320	-.00440	-.00300	.64700	.02759
.260	10.110	1.02500	.30160	.00160	1.06300	-.06721	-.04060	-.01460	-.02800	.64900	.03126
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

## PARAMETRIC DATA

ALPHA = 20.000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000

(RDP087) ( 09 JUL 73 )

0A21 B17C7 MAF5 M107E23 X9

## REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 07/ 0 RNL = 1.85 GRADIENT INTERVAL = -5.00V 5.00

MACH	ALPHA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	KCF/L	CAB
.260	-4.230	-.25240	.03060	.03860	-.25390	.01180	.00000	.00010	.00100	.70500	.03064
.260	-2.110	-.15340	.02290	.03760	-.15420	.01751	.00000	.00010	.00000	.73900	.03069
.260	-.040	-.05630	.01950	.03750	-.05630	.01951	.00000	.00010	.00000	.89500	.02978
.260	2.050	-.04190	.01690	.03760	.04260	.01742	.00000	.00020	.00000	.32300	.02970
.260	4.170	.13680	.02150	.03760	.13980	.01137	.00010	.00010	-.00100	.55000	.02956
.260	6.260	.23660	.02830	.03810	.23850	.00231	.00000	-.00020	.00000	.59000	.02846
.260	8.360	.33540	.03600	.03840	.33750	-.01124	.00000	-.00030	.00000	.60700	.02864
.260	10.480	.43710	.05320	.03870	.43950	-.02717	.00000	-.00060	.00000	.61700	.02990
.260	12.670	.54120	.07600	.03790	.54480	-.04391	-.00020	-.00030	.00000	.62400	.03072
.260	14.720	.65290	.10650	.03480	.65860	-.06293	-.00070	.00030	.00000	.63000	.03244
.260	16.840	.76850	.14720	.02930	.77820	-.08177	-.00000	.00030	.00000	.63500	.03431
.260	18.950	.86860	.22160	.01720	.89350	-.07248	-.01110	-.00750	.02200	.64200	.03730
.260	21.060	.97750	.28790	.00910	1.01500	-.06507	-.01110	-.00770	.02300	.64800	.03994
.260	23.270	1.07940	.36740	.00130	1.13690	-.08752	-.00620	-.00430	.01600	.64900	.04530
.260	25.310	1.16360	.44800	.00110	1.24340	-.09258	-.00230	-.00320	.00600	.64900	.04998
	GRADIENT	.04663	-.00106	-.00007	.04696	-.00004	.00000	.00000	-.00019	-.03457	-.00017

## PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000

TABLE 1. SOURCE DATA NAAL-795 Q121A

(RCP:140) ( 29 JUL 73 )

Q21	B17C7	M4F5	W107E23	X9
-----	-------	------	---------	----

### PARAMETRIC DATA

ALPHA =	.000	BDFLAP =	-16.000
ELEVATION =	.000	AIRLON =	.000

## REFERENCE DATA

SAREY =	4.4119	50. FT.	XORP =	43.5974	INCHES
LYEP =	19.2299	INCHES	YARP =	.0000	INCHES
ORFP =	37.9359	INCHES	ZARP =	16.2000	INCHES
SCALE =	.0405	SCALE			

RM/0 RM/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

(RDP:109) ( 27 JUL 73 )

CA21 817C7 P4F5 W107E23 X9

## PARAMETRIC DATA

```
ALPHA = 10.000 BOFLAP = -10.000
ELEVAT = .000 AIRCN = .000
```

## REFERENCE DATA

BRD	=	4.4119	90.FT.	YARP	=	43.5974	INCHES
LRD	=	19.2299	INCHES	YARP	=	.0000	INCHES
BRD	=	37.9359	INCHES	ZARP	=	16.2000	INCHES
SCALE	=	.0415 SCALE					

GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

**TRANSLATED SOURCE DATA NAAL-705 CA21A**

0A2:	B17C7	M4F5	W107E23	X9
------	-------	------	---------	----

(R00000) (26 JUL 73)

## REFERENCE DATA

SREF =	4.4119 SQ.FT.	XMRP =	43.9974 INCHES
LRCP =	19.2299 INCHES	YMRP =	.0000 INCHES
BRCP =	37.9339 INCHES	ZMRP =	16.2000 INCHES
SCALE =	.0405 SCALE		

ALPHA = 15.0000 BOFLAP = -16.0000  
ELEVON = .0000 AIRON = .0000

### PARAMETRIC DATA

RUN NO. 99/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

## REFERENCE DATA

GREY = 4.4119 INCHES  
 LRF = 19.2298 INCHES  
 BRG = 37.9399 INCHES  
 SCALE = .04015 SCALE

```
ALPHA = 20.000 BOFLAP = -10.000
ELEVON = .000 AIRCON = .000
```

### PARAMETRIC DATA

0421	B17C7	M4F5	W107E23	X9
------	-------	------	---------	----

( 16 JUL 65 ) ( 52 MR 65 )

91/0 RVL = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]





TAB19 AYED SOURCE DATA NAAL-735 0A21A

( 26 JUL 69 ) ( 09 JUL 69 )

0A21	817C7	F5	X9
------	-------	----	----

## PARAMETRIC DATA

BOFLAP = -10.000

## REFERENCE DATA

GREY =	4.4119 INCHES	YARP =	43.9974 INCHES
LEAF =	19.2299 INCHES	ZARP =	.0000 INCHES
BREY =	37.9339 INCHES		16.2000 INCHES
SCALE =	.0005 SCALE		

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.070	-.04930	-.00590	-.05020	.01153	.00030	.00000	.00000	.60600	.02060
.260	-2.030	-.03710	.00320	-.03760	.01214	.00030	.00000	.00000	.60100	.01965
.260	-.020	-.02490	.01250	-.02490	.01229	.00030	.00000	.00000	.63500	.01962
.260	1.970	-.01330	.02150	-.01290	.01196	.00020	.00000	.00000	1.26100	.02060
.260	4.000	-.02160	.03160	-.03100	.01176	.00010	.00000	.00000	11.53300	.02076
.260	6.020	.00650	.01200	.00960	.01172	.00020	.00000	.00000	-.90200	.02047
.260	8.040	.02010	.03150	.02190	.01104	.00010	.00000	-.00100	-.21300	.02149
.260	10.050	.03240	.06160	.03460	.00950	.00010	.00000	-.00100	.01400	.02176
.260	12.060	.04610	.06630	.05060	.00739	.00010	.00010	.00000	.15400	.02373
.260	14.110	.06520	.07150	.06650	.00500	.00010	.00010	-.00100	.24300	.02618
.260	16.140	.06340	.06150	.06740	.00217	.00010	.00020	.00000	.30600	.02932
.260	18.160	.05310	.06720	.10660	-.00061	.00000	.00010	-.00000	.35400	.03213
.260	20.190	.12260	.04010	.12890	-.00465	.00010	.00020	-.00200	.36400	.03533
.260	22.210	.14270	.03640	.15090	-.00793	.00010	.00010	-.00300	.40900	.03761
.260	24.270	.16360	.05970	.17370	-.01276	.00010	.00020	-.00300	.42900	.04066
GRANDT		-.00043	.00463	.00611	.00001	-.00002	.00000	.00000	1.11426	.00006

## REFERENCE DATA

WREY =	4.4119 98.FT.	XWRP =	45.9974 INCHES
WREP =	19.2299 INCHES	YWRP =	.0000 INCHES
ZWREY =	37.9359 INCHES	ZWRP =	16.2000 INCHES
SCALE =	.0005 SCALE		

THIN NO.	93/0	RN/L = 1.05	GRADIENT INTERVAL = -5.00/	5.00
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				

[illegible]

## PARAMETRIC DATA

1) BHA = .12% BCFLAP = -18.00%

( 22 JUL 73 ) ( 1501Z )

### PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -10.000

## REFERENCE DATA

SREF = 4.4119 SO.FT. YARP = 43.9974 INCHES  
LREF = 19.2299 INCHES YARP = .9000 INCHES  
SREF = 37.5399 INCHES ZARP = 16.2000 INCHES  
SCALE = .0005 SCALE

ITEM NO.	QTY	RN/L	GRADIENT INTERVAL	=	-5.000/	5.000
94/ 9	1.05					

MACH	BETA	CL	CLF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.120	.04610	.01560	.05620	.04810	.00752	.02560	-.00450	.06600	.22000	.02757
.260	-5.030	.03640	.01720	.05880	.03680	.00000	.01270	-.00210	.03200	.09200	.02458
.260	.010	.03310	.01650	.06110	.03550	.01048	-.00000	.00000	.03100	.01800	.02177
.260	5.040	.03570	.01470	.05950	.03770	.00824	-.01390	.00210	-.02400	.06800	.02506
.260	10.100	.04670	.01450	.05680	.04850	.00615	-.02680	.00460	.06500	.21800	.02711
							.00000	.00000	.00000	.00000	.00000

( 52 706 61 ) ( 561:571 )

### PARAMETRIC DATA

ALPHA = 15.(YX) BOFLAP = -16.(YX)

## REFERENCE DATA

GREY = 4.4119 SQ.FT.      XWRP = 43.5974 INCHES  
 LUST = 19.2259 INCHES      YWRP = .0000 INCHES  
 GREY = 37.9359 INCHES      ZWRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO.	95/0	RN/L	1.85	GRADIENT INTERVAL =	-5.00/	5.00
---------	------	------	------	---------------------	--------	------

[illegible]

TABULATED SOURCE DATA NAAL-705 0A21A

DATE 02 OCT 73

(RCP098) ( 09 JUL 73 )

0A21 817C7 F5 X9

PARAMETRIC DATA

ALPHA = 20.000 BDFLAP = -18.000

REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 96/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MAON	BETA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.110	.14070	.08690	.14740	-.00690	.02460	-.00610	.06920	.42600	.03709
.260	-5.060	.12820	.09190	.13480	-.00469	.01280	-.00270	.02600	.40000	.03627
.260	.000	.12320	.09310	.12970	-.00418	.00000	.00010	-.00100	.38000	.03561
.260	5.020	.12880	.09080	.13430	-.00806	-.01230	.00310	-.00320	.40000	.03970
.260	10.110	.14570	.08730	.13170	-.00984	-.02510	.00660	-.00700	.43700	.04017
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(RCP097) ( 09 JUL 73 )

PARAMETRIC DATA

BETA = .000

REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 97/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-3.990	-.02780	-.02240	-.02850	.00965	.00050	.00000	.00000	.36100	.02126
.260	-1.990	-.01330	-.01410	-.01360	.00957	.00060	.00000	.00000	.27000	.02108
.260	.020	-.00210	-.00440	-.00210	.00923	.00050	.00000	-.00100	-.10500	.02134
.260	2.020	.00490	.00520	.00930	.00921	.00060	.00200	-.00100	.44100	.02166
.260	4.040	.02030	.01060	.02100	.00916	.00050	.00000	.00000	.39200	.02291
.260	6.070	.03220	.01460	.03330	.00827	.00040	.00000	-.00100	.37900	.02437
.260	8.070	.04430	.02440	.04630	.00741	.00040	.00000	-.00100	.37600	.02650
.260	10.090	.05790	.03410	.05990	.00612	.00030	.00000	-.00100	.38800	.02925
.260	12.140	.07150	.04250	.07430	.00496	.00020	.00000	-.00100	.39300	.03086
.260	14.140	.08780	.05060	.09120	.00338	.00010	.00000	-.00100	.41200	.03388
.260	16.190	.10300	.05870	.10920	-.00327	.00000	.00000	-.00200	.42600	.03672
.260	18.210	.12270	.06620	.12810	-.00644	.00000	.00000	-.00200	.43000	.03974
.260	20.230	.13940	.07360	.14620	-.00973	.00000	.00000	-.00200	.43600	.04235
.260	22.280	.15760	.08080	.16630	-.01319	.00000	.00000	-.00100	.44000	.04468
.260	24.300	.17490	.08820	.18590	-.01607	.00000	.00000	-.00100	.46100	.04678
	GRADIENT	.01590	.00465	.00607	-.00217	-.00000	.00000	-.00000	.01161	.00020

OA21 B17C7

X9

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.9974 INCHES

LREF = 19.2299 INCHES YMRP = .0000 INCHES

BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES

SCALE = .0405 SCALE

ALPHA = .000

RUN NO. 98/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CMF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.110	-.00320	.00640	-.00440	-.00320	.00645	.02610	-.00370	.06200	.14900	.03071
.260	-5.060	-.00370	.00930	-.00450	-.00370	.00934	.01350	-.00170	.02900	.20000	.02449
.260	-.020	-.00140	.00860	-.00350	-.00140	.00862	.00090	-.00010	-.00100	-.76200	.02510
.260	5.040	-.00340	.00710	-.00480	-.00340	.00718	-.01210	.00140	-.02900	.13500	.02774
.260	10.100	-.00100	.00430	-.00300	-.00100	.00438	-.02490	.00340	-.06200	-1.06200	.03588
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00200	.00200	.00000	.00000	.00000

OA21 B17C7

X9

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.9974 INCHES

LREF = 19.2299 INCHES YMRP = .0000 INCHES

BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES

SCALE = .0405 SCALE

ALPHA = 10.000

RUN NO. 99/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CL	CMF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-10.100	.07090	.01650	.03800	.07270	.00379	.02540	-.00450	.06700	.45700	.03492
.260	-5.070	.06200	.01710	.03950	.06410	.00597	.01290	-.00220	.03100	.42300	.03267
.260	.000	.06190	.01740	.01940	.06400	.00628	.00030	.00000	.00000	.42200	.03135
.260	5.030	.06270	.01620	.03860	.06460	.00494	-.01220	.00210	-.03200	.42900	.03371
.260	10.100	.07350	.01570	.03620	.07520	.00253	-.02510	.00450	-.07000	.47200	.03742
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00200	.00200	.00000	.00000	.00000

### PARAMETRIC DATA

ALPHA = 15.000

## REFERENCE DATA

SREF = 4.4119 SQ.FT.      XMRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES      YMRP = .0000 INCHES  
 BREF = 37.9339 INCHES      ZMRP = 16.2020 INCHES  
 SCALE = .0409 SCALE

Case No.	Year	BN/L	Gradient Interval	-5.00/	5.00
1	1977	1.65			

[illegible]

(101808) ( 29 JUL 73 )

### PARAMETRIC DATA

$$\alpha = 20.0^\circ$$

## REFERENCE DATA

BRF =	4.4119	50.FT.	XRP =	43.9974	INCHES
LRP =	19.2299	INCHES	YRP =	.0000	INCHES
ZRP =	37.9359	INCHES	ZRP =	16.2000	INCHES
SCALE =	.0405	SCALE			

10/1/0	1.85	GRADIENT INTERVAL = -5.00/ 5.00
--------	------	---------------------------------

PARAM	BETA	CL	COF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.04000	-10.100	.16500	.05090	.07000	.17240	-.00921	.02490	-.00620	.07000	.50000	.04592
.260			.04840	.07460	.15610	-.00568	.01260	-.01260	.02800	.47500	.04441
.260	-5.040	.14650	.04800	.07370	.15430	-.00561	.00060	.00000	.00200	.47400	.04579
.260	.010	.14670	.04800	.07370	.15430	-.00561	-.01170	.00310	.00200	.47500	.04940
.260	5.060	.14930	.04660	.07410	.15620	-.00795	-.02450	.00650	-.07500	.50100	.04916
.260	10.140	.16650	.05060	.07020	.17370	-.01001	.00000	.00000	.00000	.00000	.00000



ALPHA = 0.05

[illegible]

0121 B17

(RDP105) (19 JUL 73)

$$\alpha = 15.000$$
[illegible]

(RDF106) ( 09 JUL 73 )

0A21 B17 X9

PARAMETRIC DATA

REFERENCE DATA									
SREF =	4.4119	50. FT.	XMRP =	43.5974	INCHES				
LRFP =	19.2299	INCHES	YMRP =	.0000	INCHES				
BRFP =	37.9399	INCHES	ZMRP =	16.2000	INCHES				
SCALE =	.0405	SCALE							
RUN NO. 106/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00									
MAOH	BETA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L
.260	-10.120	.15520	.07410	.16150	-.01046	-.02420	-.00630	.07600	.48000
.260	-5.060	.13690	.07820	.14520	-.00766	.01240	-.00270	.03200	.45100
.260	-.010	.13520	.07850	.14140	-.00721	.00010	.00010	.00000	.44500
.260	5.040	.13620	.07820	.14410	-.00861	-.01160	.00320	-.03600	.45000
.260	10.110	.15440	.07490	.16030	-.01164	-.02420	.00660	-.08200	.47700
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ALPHA = 20.000

(RDF107) ( 09 JUL 73 )

PARAMETRIC DATA

REFERENCE DATA									
SREF =	4.4119	50. FT.	XMRP =	43.5974	INCHES				
LRFP =	19.2299	INCHES	YMRP =	.0000	INCHES				
BRFP =	37.9399	INCHES	ZMRP =	16.2000	INCHES				
SCALE =	.0405	SCALE							
RUN NO. 107/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00									
MAOH	BETA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L
.260	-4.230	.26910	.07240	-.29290	.04102	-.00340	.00000	.01600	.74000
.260	-2.130	.19130	.07360	-.19330	.04784	-.00340	.00000	.01700	.79000
.260	-.050	.09470	.07560	-.09470	.04967	-.00310	.00000	.01300	.94300
.260	2.030	.00100	.07750	.00060	.04881	-.00310	.00010	.01400	22.23000
.260	4.120	.09370	.07950	.09710	.04297	-.00310	.00220	.01400	.34800
.260	6.260	.19190	.08140	.19680	.03363	-.00330	.00000	.01600	.49700
.260	8.340	.26850	.08360	.29460	.02037	-.00330	.00000	.01700	.54500
.260	10.410	.36680	.08570	.39410	.00460	-.00410	-.00050	.01900	.56900
.260	12.570	.49660	.08680	.50590	-.01394	-.00490	-.00060	.02000	.58600
.260	14.660	.60330	.08690	.61710	-.03327	-.00490	.00000	.02100	.59700
.260	16.790	.72190	.08390	.73820	-.05229	-.00440	.00010	.02100	.60700
.260	18.940	.83000	.07460	.86120	-.04746	-.00440	.00000	.02100	.60700
.260	21.050	.93640	.06820	.98040	-.05984	-.01340	-.00620	.03200	.61700
.260	23.180	1.03430	.06200	1.09800	-.06325	-.00400	-.00570	.03400	.62900
.260	25.300	1.11480	.04910	1.19980	-.07039	-.00430	-.00570	.02300	.63000
	GRADIENT	.04562	.00086	.00069	.00023	.00004	.00000	-.00034	.00000

BETA = .000  
ELEVON = .000  
VTLINE = .000  
SPDRK = 55.000  
CANARD = .000

MAOH	BETA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.230	.26910	.07240	-.29290	.04102	-.00340	.00000	.01600	.74000	.04620
.260	-2.130	.19130	.07360	-.19330	.04784	-.00340	.00000	.01700	.79000	.04490
.260	-.050	.09470	.07560	-.09470	.04967	-.00310	.00000	.01300	.94300	.04406
.260	2.030	.00100	.07750	.00060	.04881	-.00310	.00010	.01400	22.23000	.04237
.260	4.120	.09370	.07950	.09710	.04297	-.00310	.00220	.01400	.34800	.04144
.260	6.260	.19190	.08140	.19680	.03363	-.00330	.00000	.01600	.49700	.04009
.260	8.340	.26850	.08360	.29460	.02037	-.00330	.00000	.01700	.54500	.03966
.260	10.410	.36680	.08570	.39410	.00460	-.00410	-.00050	.01900	.56900	.03965
.260	12.570	.49660	.08680	.50590	-.01394	-.00490	-.00060	.02000	.58600	.04105
.260	14.660	.60330	.08690	.61710	-.03327	-.00490	.00000	.02100	.59700	.04215
.260	16.790	.72190	.08390	.73820	-.05229	-.00440	.00010	.02100	.60700	.04375
.260	18.940	.83000	.07460	.86120	-.04746	-.00440	.00000	.02100	.60700	.04755
.260	21.050	.93640	.06820	.98040	-.05984	-.01340	-.00620	.03200	.61700	.05067
.260	23.180	1.03430	.06200	1.09800	-.06325	-.00400	-.00570	.03400	.62900	.05558
.260	25.300	1.11480	.04910	1.19980	-.07039	-.00430	-.00570	.02300	.63000	.06014
	GRADIENT	.04562	.00086	.00069	.00023	.00004	.00000	-.00034	.00000	.00000





DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 0421A

PAGE 61

0421 B17C7 H2M4F5 W07E23V7R6N9

(RDP108) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 50.FT. YMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9339 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOPLAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = 10.000

RUN NO. 108/ 0 RW/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.240	-.28620	.06220	.07630	-.29010	.04068	-.00210	.00050	.00700	.74600	.04669
.200	-2.130	-.18660	.05460	.07770	-.19050	.04760	-.00210	.00060	.00700	.79900	.04550
.200	-.030	-.09110	.04850	.07880	-.09120	.04852	-.00220	.00050	.00600	.96800	.04613
.200	2.050	.00500	.04750	.06070	.00660	.04715	-.00220	.00060	.00600	-3.76900	.04516
.200	4.190	.09950	.04930	.06280	.10280	.04207	-.00220	.00070	.00600	.35200	.04371
.200	6.290	.19450	.05370	.06630	.19920	.03225	-.00220	.00060	.00600	.49000	.04350
.200	8.350	.29460	.06290	.06940	.30060	.01945	-.00240	.00050	.00700	.54000	.04288
.200	10.460	.39600	.07750	.09140	.40340	.00416	-.00250	.00030	.00700	.56800	.04268
.200	12.590	.50310	.09600	.09260	.51240	-.01402	-.00270	.00030	.00900	.58300	.04398
.200	14.720	.61560	.12720	.09310	.62760	-.03339	-.00310	.00060	.01000	.59500	.04565
.200	16.820	.72910	.16760	.08780	.74640	-.05058	-.00310	.00090	.00900	.60600	.04594
.200	18.960	.83470	.23600	.07890	.86670	-.04611	-.01210	-.00450	.02600	.61600	.04831
.200	21.060	.94260	.30070	.07350	.98770	-.05854	-.01240	-.00310	.02600	.62200	.05111
.200	23.190	1.03950	.37610	.06400	1.10350	-.06357	-.00940	-.00470	.02300	.62800	.05496
.200	25.310	1.12640	.45410	.05960	1.21250	-.07120	-.00650	-.00570	.01600	.63100	.06002
.200	GRADIENT	.04602	-.00156	.00076	.04668	.00009	-.00001	.00002	-.00014	-.23579	-.00030

0421 B17C7 K2M4F5 W10P23V7K6X9

(10P109) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 90.FT. XGRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YGRP = .0000 INCHES  
 BREF = 37.9339 INCHES ZGRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -10.000  
 ELEVON = .000 AILRON = .000  
 VTILNC = .000 RUDDER = .000  
 SPDRBK = 53.000 CANARD = 20.000

RUN NO. 109/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.260	-4.240	-.28640	.06300	.08460	-.29030	.04164	-.00220	.00180	.00700	.75700	.04668
.260	-2.130	-.18930	.05360	.08600	-.19120	.04874	-.00240	.00700	.00700	.81500	.04637
.260	-.030	-.09230	.05190	.08760	-.09230	.05186	-.00220	.00700	.00600	.99800	.04580
.260	2.090	.00410	.05130	.09120	.00390	.05118	-.00220	.00700	.00600	-4.88500	.04441
.260	4.150	.09630	.05430	.09280	.10200	.04703	-.00230	.00700	.00600	.31500	.04274
.260	6.250	.19400	.05800	.09310	.19910	.03636	-.00270	.00700	.00600	.47400	.04267
.260	8.370	.29080	.06580	.09970	.29750	.02378	-.00250	.00700	.00600	.52800	.04160
.260	10.460	.39220	.08040	.09910	.40030	.00786	-.00310	.00700	.00600	.55800	.04136
.260	12.590	.49970	.10180	.09830	.50990	-.00982	-.00350	.00700	.00600	.57800	.04247
.260	14.710	.60690	.13140	.09480	.62230	-.02734	-.00380	.00120	.00600	.59300	.04304
.260	16.830	.72580	.17090	.08880	.74420	-.04656	-.00360	.00130	.00900	.60300	.04440
.260	18.940	.85010	.23970	.07680	.86290	-.04269	-.01240	-.00400	.02700	.61700	.04758
.260	21.060	.93440	.30100	.07080	.98120	-.05495	-.01260	-.00310	.02600	.62300	.03149
.260	23.190	1.03440	.37610	.06250	1.09890	-.06167	-.00970	-.00400	.02200	.62800	.05605
.260	25.320	1.12340	.45570	.05990	1.21040	-.06822	-.00720	-.00450	.01800	.63100	.05940
GRADIENT		.04594	-.00105	.00786	.04684	.00063	-.00200	.00000	-.00014	-.31327	-.00049

REFERENCE DATA

BREF = 4.4119 96.FT. ANRP = 43.5974 INCHES BETA = .000 BDFLAP = -18.000

LREF = 19.2299 INCHES YMRP = .0000 INCHES ELEVON = .000 ALLRON = .000

SREF = 37.9359 INCHES ZMRP = 16.2000 INCHES VTLINC = .000 RUDDER = .000

SCALE = .0405 SCALE SPDRK = 55.000 CANARD = -10.000

PARAMETRIC DATA

RUN NO. 110/ 0 RNL = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.270	.06370	.06440	-.29610	.04180	-.00190	.00100	.00600	.72900	.04627
.260	-2.150	.05490	.06600	-.19390	.04756	-.00200	.00090	.00600	.77300	.04711
.260	-.070	.04690	.06600	-.09780	.04081	-.00200	.00100	.00500	.90500	.04622
.260	2.040	.04750	.06930	.00050	.04751	-.00190	.00100	.00500	15.96400	.04417
.260	.00110	.04820	.07210	.09600	.04146	-.00210	.00100	.00600	.37300	.04332
.260	.09280	.06120	.07490	.19280	.03178	-.00200	.00110	.00500	.50800	.04222
.260	.18620	.06250	.07730	.29280	.01859	-.00220	.00090	.00600	.55200	.04120
.260	.26690	.07460	.07910	.39330	.00291	-.00280	.00060	.00700	.57600	.04141
.260	.36620	.09410	.08010	.50090	-.01511	-.00280	.00060	.00600	.59000	.04243
.260	.49220	.12240	.07860	.61460	-.03444	-.00310	.00100	.01000	.60200	.04375
.260	.60330	.16130	.07480	.73730	-.05400	-.00310	.00130	.00910	.61200	.04596
.260	.72140	.23200	.06620	.85600	-.04811	-.01180	-.00440	.02700	.62100	.04769
.260	.82540	.29270	.06180	.97470	-.06175	-.01190	-.00440	.02400	.62800	.05156
.260	.93170	.37000	.05510	1.09590	-.06653	-.00490	-.00440	.02400	.63100	.05616
.260	1.03360	.44700	.05550	1.20050	-.07300	-.00560	-.00510	.01900	.63200	.06111
.260	1.11660	.00183	.00089	1.26672	-.07703	-.00560	-.00510	.01900	.63200	.06111
.260	.04586	-.00183	.00089	.04672	-.07703	-.00560	-.00510	.01900	.69155	-.00061

GRADIENT

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL: T05 0A21A

PAGE 64

0A21 817C7 HEMAF'S W10723VTR8X9

(RDP1111) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.9974 INCHES  
 LREF = 12.2249 INCHES YMRP = .0000 INCHES  
 DREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPOBRK = 55.000 CANARD = -20.000

RUN NO. 111/ 0 RM/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.250	-.29010	.06670	.05510	-.29420	.04502	-.00150	.00120	.00150	.71800	.04859
.260	-2.180	-.19290	.05730	.03480	-.19490	.03002	-.00170	.00120	.00150	.75300	.04733
.260	-.070	-.09870	.05140	.05670	-.09680	.03132	-.00170	.00020	.00100	.86900	.04588
.260	2.020	.00060	.04870	.03960	.00260	.04673	-.00190	.00120	.00150	-7.60900	.04514
.260	4.100	.09620	.04910	.06180	.09940	.04210	-.00200	.00200	.00150	.42100	.04458
.260	6.210	.19260	.05380	.06580	.19730	.03250	-.00190	.00200	.00150	.52700	.04320
.260	8.320	.29100	.06270	.06870	.29700	.01992	-.00210	.00120	.00150	.56400	.04170
.260	10.440	.39150	.07550	.07120	.39870	.00332	-.00240	-.00140	.00150	.58400	.04248
.260	12.560	.49660	.09670	.07220	.50570	-.01424	-.00280	-.00140	.00150	.59700	.04281
.260	14.670	.60530	.12420	.07140	.61710	-.03316	-.00320	.00120	.00150	.60700	.04367
.260	16.780	.72140	.16260	.06630	.73760	-.05263	-.00310	.00130	.00150	.61600	.04618
.260	18.910	.82930	.23400	.05670	.86140	-.04737	-.00120	-.00150	.00150	.62500	.04835
.260	21.040	.93470	.29550	.03230	.97850	-.05990	-.00120	-.00160	.00150	.63000	.05103
.260	23.170	1.03430	.37190	.02470	1.09720	-.06519	-.00180	-.00160	.00150	.63400	.05608
.260	25.300	1.11520	.44710	.04650	1.19930	-.07237	-.00150	-.00160	.00150	.63500	.06065
.260		.04628	-.00210	.00182	.04716	-.00034	-.00006	-.00002	-.00000	-.42975	-.00149

GRADIENT



0A21 817C7 W344F5 W107E23V7R6X9

REFERENCE DATA

SREF = 4.4119 56.FT. XREF = 43.5974 INCHES  
LREF = 19.2299 INCHES YREF = .0000 INCHES  
BREF = 37.3359 INCHES ZREF = 18.2000 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -10.000  
ELEVON = .000 AILERON = .000  
VTLINE = .000 RUDDER = .000  
SPORUK = 55.000 CANARD = .000

RUN NO. 112/ 0 RN/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.200	-.20720	.06190	.06340	-.29100	.04040	-.00170	.00030	.00300	.73200	.04871
.200	-2.100	-.10360	.05390	.06640	-.19150	.04670	-.00200	.00120	.00600	.78100	.04713
.200	-.000	-.09170	.04880	.07140	-.09180	.04879	-.00190	.00120	.00400	.93600	.04590
.200	2.030	.00450	.04710	.07500	.00820	.04700	-.00200	.00030	.00400	-3.80500	.04481
.200	4.120	.10060	.04840	.07660	.10360	.04110	-.00210	.00030	.00300	.37100	.04409
.200	6.430	.19030	.05320	.08290	.20290	.03142	-.00210	.00010	.00300	.50000	.04309
.200	8.390	.29900	.06290	.08740	.30490	.01872	-.00240	.00000	.00600	.54400	.04220
.200	10.480	.40010	.07620	.09100	.40730	.00234	-.00260	-.00010	.00700	.56700	.04345
.200	12.570	.50720	.09610	.09430	.51640	-.01471	-.00320	-.00010	.00600	.58200	.04346
.200	14.710	.61910	.12700	.09670	.63100	-.03439	-.00400	.00060	.00700	.59300	.04526
.200	16.890	.73560	.16750	.09360	.75260	-.03275	-.00400	.00060	.00600	.60300	.04605
.200	18.960	.84320	.23940	.08670	.87530	-.04750	-.01270	-.00490	.02400	.61300	.04794
.200	21.090	.94850	.37910	.08400	.99350	-.08011	-.01290	-.00610	.02600	.61800	.05104
.200	23.200	1.05500	.37910	.07530	1.11720	-.06636	-.00920	-.00510	.02000	.62400	.05705
.200	25.340	1.15110	.46300	.07070	1.23650	-.07434	-.00660	-.00600	.01700	.62600	.06145
GRADIENT		.04629	-.00161	.00156	.04713	.00008	-.00004	.00000	-.00010	-.22541	-.00055

0421 817C7 NSM4F5 WD0723V7R319

(RDP113) (09 JUL 73)

## REFERENCE DATA

SREF = 4.4119 56 FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = 10.000

RUN NO. 113/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CLM	CN	CAF	CYN	CLL	CY	KCF/L	CAB
.260	-4.240	-.28460	.06320	-.26650	.04216	-.00200	.00120	.00600	.75100	.04621
.260	-2.170	-.18790	.05590	-.16990	.04481	-.00200	.00020	.00670	.80910	.04524
.260	-.060	-.09060	.05180	-.09060	.03154	-.00200	.00020	.00500	.99910	.04469
.260	2.040	.00640	.05100	.00630	.03080	-.00200	.00120	.00500	-3.32300	.04361
.260	4.130	.10270	.05300	.10630	.04546	-.00200	.00020	.00600	.32300	.04292
.260	6.240	.20190	.05810	.20700	.03591	-.00230	.00110	.00600	.47200	.04276
.260	8.360	.30170	.06650	.30620	.02197	-.00270	.00000	.00710	.52700	.04341
.260	10.470	.40340	.07550	.41150	.00692	-.00280	.00000	.00600	.55500	.04305
.260	12.580	.51220	.08160	.52250	-.01045	-.00330	.00000	.00600	.57400	.04433
.260	14.730	.62630	.10750	.63990	-.00939	-.00370	.00070	.00800	.56610	.04584
.260	16.840	.74320	.10750	.76200	-.04779	-.00360	.00060	.00800	.61000	.04760
.260	18.960	.84920	.09360	.88210	-.04670	-.01220	-.00410	.02200	.61000	.05016
.260	21.090	.95390	.08470	1.00040	-.05686	-.01350	-.00470	.02200	.61000	.05326
.260	23.190	1.05190	.07590	1.11780	-.06199	-.01040	-.00530	.02200	.62500	.05653
.260	25.320	1.14780	.06910	1.23690	-.06963	-.00580	-.00610	.01900	.62900	.06132
.260			.06171	.04715	.00042	.00000	-.00000	-.00000	-.23837	-.00000
	GRADIENT	.04625	-.00121	.04715	.00042	.00000	-.00000	-.00000	-.23837	-.00000

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 67

(RCP114) (09 JUL 73)

0A21 817C7 H3WAF5 W07E23V7R6X9

# REFERENCE DATA

BREF = 4.4119 96.FT. XGRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YGRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZGRP = 16.2900 INCHES  
 SCALE = .0405 SCALE

# PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000  
 ELEV01 = .000 AILRON = .000  
 VTINC = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = 20.000

RUN NO. 114/ 0 RW/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.240	-.28470	.06490	.09040	-.28870	.04370	-.00210	.00020	.01700	.76500	.04654
.260	-2.180	-.18490	.05820	.09340	-.18690	.05125	-.00220	.00020	.00670	.83300	.04637
.260	-.060	-.06870	.05530	.09630	-.06680	.05525	-.00220	.00020	.00300	1.05800	.04566
.260	2.020	.00610	.05520	.09600	.01010	.13494	-.00230	.00030	.00670	-2.93700	.04664
.260	4.120	.10540	.05620	.10320	.10930	.05049	-.00210	.00130	.00700	.30200	.04357
.260	6.230	.20140	.06360	.10710	.20710	.04135	-.00210	.00010	.00800	.45900	.04307
.260	8.340	.29720	.07180	.10660	.30430	.02797	-.00210	.00000	.00600	.51600	.04206
.260	10.460	.39710	.08600	.11190	.40610	.01243	-.00270	.00000	.01000	.54800	.04104
.260	12.580	.50290	.10730	.11730	.51420	-.00460	-.00390	.00010	.01300	.57000	.04101
.260	14.690	.61310	.13780	.10660	.62800	-.02221	-.00420	.00070	.01200	.58700	.04170
.260	16.810	.73210	.17720	.09660	.75210	-.04210	-.00400	.00060	.01000	.60100	.04377
.260	18.930	.83920	.24660	.08640	.87380	-.03906	-.01170	-.00510	.02800	.61300	.04750
.260	21.080	.94780	.31000	.08250	.99590	-.03178	-.01170	-.00670	.02900	.61920	.05076
.260	23.190	1.05060	.36790	.07400	1.11860	-.05732	-.00850	-.00560	.02500	.62500	.05561
.260	25.320	1.15240	.47380	.17920	1.24440	-.06421	-.00580	-.00680	.02100	.62900	.05993
.260	GRADIENT	.04656	-.00076	.00148	.04751	.00063	-.00000	.00001	.00000	-.22420	-.00037

0A21 B17C7 KSMF3 M107E23V7R639

(RDF115) ( 09 JUL 75 )

## REFERENCE DATA

SRP = 4.1119 50.FT. SRP = 43.5974 INCHES  
 LRF = 19.2299 INCHES YRP = .0000 INCHES  
 BRP = 37.9359 INCHES ZRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

BETA = .000 BDFLAP = -10.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = -10.000

## PARAMETRIC DATA

RUN NO. 115/ 9 RV/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	ZBL	CY	KCP/L	CAB
.260	-4.260	-.29020	.06600	.05200	-.29430	.04433	-.00140	.00030	.00500	.71400	.04773
.260	-2.160	-.19330	.05570	.05480	-.19530	.04837	-.00170	.00010	.00500	.75300	.04786
.260	-.070	-.07680	.04970	.05780	-.09690	.04959	-.00190	.00020	.00500	.86900	.04609
.260	2.030	.00100	.04700	.06120	.00270	.04695	-.00190	.00020	.00400	-7.63500	.04539
.260	4.130	.09800	.04830	.06600	.10120	.04117	-.00190	.00020	.00400	.40900	.04382
.260	6.230	.19580	.05340	.07100	.20050	.03183	-.00210	.00010	.00500	.51900	.04229
.260	8.340	.29240	.06180	.07490	.29820	.01878	-.00220	.00000	.00500	.55700	.04175
.260	10.470	.39420	.07580	.07970	.40140	.00293	-.00250	-.00010	.00600	.57800	.04111
.260	12.570	.50720	.09600	.08200	.50910	-.01321	-.00290	-.00010	.00700	.59000	.04210
.260	14.690	.61160	.12450	.08400	.62320	-.03465	-.00340	.00040	.00900	.60000	.04284
.260	16.810	.72970	.16450	.08200	.74610	-.05553	-.00350	.00060	.00800	.60900	.04411
.260	18.950	.83610	.23530	.07500	.86720	-.04903	-.01260	-.00160	.02700	.61700	.04742
.260	21.070	.94540	.29760	.07190	.98920	-.06225	-.01300	-.00600	.02600	.62300	.05122
.260	23.200	1.04810	.37550	.06660	1.11130	-.06778	-.01020	-.00500	.02500	.62700	.05631
.260	25.340	1.14080	.45680	.06590	1.22640	-.07542	-.00700	-.00630	.01600	.63000	.06123
GRADIENT		.04620	-.00210	.00164	.04707	-.00037	-.00006	-.00000	-.00014	-.42666	-.00049



DATE 02 OCT 73

(RDP116) ( 09 JUL 73 )

TABULATED SOURCE DATA NAAL-703 QM21A  
QK21 B17C7 M3M4F3 W107E23V7R6X9

REFERENCE DATA

SREF = 4.4119 SQ.FT. XHRF = 43.9974 INCHES  
LREF = 19.2299 INCHES YHRF = .0000 INCHES  
BREF = 37.9359 INCHES ZHRF = 16.2000 INCHES  
SCALE = .0405 SCALE

BETA = .000 BOFLAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = -20.000

PARAMETRIC DATA

RUN NO. 116/ 0 RWL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MAOH	ALPHA	CL	CD	CLM	CM	CAF	CYN	CSL	CY	XCP/L	CAB
.260	-4.290	-.29480	.07170	.04090	-.29940	.04942	-.00100	.00030	.00500	.69900	.04734
.260	-2.160	-.19660	.06110	.04280	-.19880	.05369	-.00130	.00030	.00500	.72900	.04665
.260	-.090	-.10130	.05380	.04600	-.10140	.05365	-.00130	.00030	.00500	.81800	.04644
.260	2.010	-.00440	.03210	.04770	-.00250	.05226	-.00110	.00040	.00400	7.45300	.04336
.260	4.110	.09230	.03170	.05320	.09570	.04910	-.00150	.00040	.00500	.44500	.04339
.260	6.200	.16830	.03560	.05880	.19320	.03492	-.00160	.00020	.00500	.53 .0	.04295
.260	8.320	.28740	.06380	.06380	.29360	.02154	-.00180	.00010	.00500	.58900	.04215
.260	10.430	.38770	.07680	.06780	.39320	.00339	-.00210	-.00010	.00600	.58600	.04200
.260	12.560	.49650	.09670	.07100	.50570	-.01367	-.00260	.00000	.00800	.59800	.04325
.260	14.690	.60390	.12530	.07240	.61600	-.03194	-.00300	.00040	.00900	.60800	.04262
.260	16.790	.72000	.16440	.06970	.73680	-.05125	-.00290	.00050	.00900	.61500	.04439
.260	18.920	.82930	.23450	.06140	.86050	-.04708	-.01190	-.00350	.02700	.62300	.04776
.260	21.050	.93580	.29620	.05870	.97970	-.05979	-.01180	-.00650	.02800	.62800	.05086
.260	23.180	1.03700	.37350	.05220	1.10030	-.06487	-.00830	-.00350	.02400	.63200	.05585
.260	25.310	1.12590	.45060	.05410	1.21050	-.07405	-.00550	-.00690	.02100	.63300	.06170
GRADIENT		.04606	-.00234	.00144	.04704	-.00049	-.00034	.00001	-.00005	.29596	-.00054

## REFERENCE DATA

SARP = 4.4119 INCHES  
 LARP = 19.3295 INCHES  
 BRP = 37.9399 INCHES  
 SCALE = .0405 SCALE  
 XARP = 43.9974 INCHES  
 YARP = .0000 INCHES  
 ZARP = 16.8000 INCHES

CHAIN NO.	1177	$\bar{M}_w/\bar{M}_n$	1.85	GRADIENT INTERVAL	= -5.00%	5.00%
-----------	------	-----------------------	------	-------------------	----------	-------

## PARAMETRIC DATA

BETA =	.000	BOFLAP =	-10.0000
ELEVON =	.000	AILRON =	.000
VTLINC =	.000	RUDDER =	.000
SPOORX =	55.000	CANARC =	.000

MACH	ALPHA	CL	COF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.223	-20.593	.76160	.06970	-.28950	.04047	-.00160	.00050	.00500	.73700	-.04845
.260	-2.130	-1.6940	.05260	.07050	-.19120	.04576	-.00160	.00040	.00500	.76500	-.04842
.260	-.040	-.09290	.04200	.07170	-.09290	.04795	-.00160	.00050	.00500	.93500	-.04692
.260	2.040	.00090	.04640	.07400	.00450	.04635	-.00170	.00060	.00500	-.5.31900	.04555
.260	4.130	.09950	.07730	.07730	.10270	.04072	-.00160	.00050	.00400	.37200	.04436
.260	6.240	.19610	.04600	.06100	.20070	.03129	-.00160	.00040	.00500	.93100	.04329
.260	8.340	.29340	.06250	.08320	.29940	.01927	-.00200	.00020	.00600	.54700	.04191
.260	10.460	.39420	.07690	.08720	.40160	.00405	-.00260	.00000	.00800	.56900	.04156
.260	12.570	.50150	.09720	.08840	.51060	-.01433	-.00320	.00020	.00600	.58600	.04277
.260	14.700	.61210	.12590	.08760	.62400	-.03354	-.00320	.00000	.00900	.59800	.04403
.260	16.810	.72670	.16590	.08300	.74550	-.05197	-.00320	.00080	.01000	.60800	.04522
.260	18.940	.83330	.23790	.07280	.86510	-.04642	-.01190	-.00320	.02700	.61800	.04766
.260	21.060	.93690	.29600	.06690	.98360	-.05863	-.01170	-.00380	.02800	.62400	.05024
.260	23.220	1.03600	.37640	.05720	1.10230	-.06334	-.00780	-.00310	.02300	.63000	.05562
.260	25.310	1.12370	.45330	.05570	1.20960	-.07061	-.00560	-.00630	.02100	.63200	.05968
GRADIENT			-.00161	.00099	.04696	.00005	-.00001	.00001	-.00010	-.32702	-.00013

QA21 B17C7 M4M4F3 W107E23V7R6X9

### PARAMETRIC DATA

BETA	=	.000	BOFLAP	=	-10.000
ELEVON	=	.500	AILPON	=	.000
VTLINC	=	.000	RUDDER	=	.000
SPOBRK	=	55.000	CANARD	=	10.000

## REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.5971 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

Iteration	Sum of Squares	Gradient	Interval	Step Size
1	1.00	0.00	0.00	0.00
2	0.50	0.50	0.50	0.50
3	0.25	0.25	0.25	0.25
4	0.125	0.125	0.125	0.125
5	0.0625	0.0625	0.0625	0.0625
6	0.03125	0.03125	0.03125	0.03125
7	0.015625	0.015625	0.015625	0.015625
8	0.0078125	0.0078125	0.0078125	0.0078125
9	0.00390625	0.00390625	0.00390625	0.00390625
10	0.001953125	0.001953125	0.001953125	0.001953125
11	0.0009765625	0.0009765625	0.0009765625	0.0009765625
12	0.00048828125	0.00048828125	0.00048828125	0.00048828125
13	0.000244140625	0.000244140625	0.000244140625	0.000244140625
14	0.0001220703125	0.0001220703125	0.0001220703125	0.0001220703125
15	0.00006103515625	0.00006103515625	0.00006103515625	0.00006103515625
16	0.000030517578125	0.000030517578125	0.000030517578125	0.000030517578125
17	0.0000152587890625	0.0000152587890625	0.0000152587890625	0.0000152587890625
18	0.00000762939453125	0.00000762939453125	0.00000762939453125	0.00000762939453125
19	0.000003814697265625	0.000003814697265625	0.000003814697265625	0.000003814697265625
20	0.0000019073486328125	0.0000019073486328125	0.0000019073486328125	0.0000019073486328125
21	0.00000095367431640625	0.00000095367431640625	0.00000095367431640625	0.00000095367431640625
22	0.000000476837158203125	0.000000476837158203125	0.000000476837158203125	0.000000476837158203125
23	0.0000002384185791015625	0.0000002384185791015625	0.0000002384185791015625	0.0000002384185791015625
24	0.00000011920928955078125	0.00000011920928955078125	0.00000011920928955078125	0.00000011920928955078125
25	0.000000059604644775390625	0.000000059604644775390625	0.000000059604644775390625	0.000000059604644775390625
26	0.0000000298023223876953125	0.0000000298023223876953125	0.0000000298023223876953125	0.0000000298023223876953125
27	0.00000001490116119384765625	0.00000001490116119384765625	0.00000001490116119384765625	0.00000001490116119384765625
28	0.000000007450580596923828125	0.000000007450580596923828125	0.000000007450580596923828125	0.000000007450580596923828125
29	0.0000000037252902984619140625	0.0000000037252902984619140625	0.0000000037252902984619140625	0.0000000037252902984619140625
30	0.00000000186264514923095703125	0.00000000186264514923095703125	0.00000000186264514923095703125	0.00000000186264514923095703125
31	0.000000000931322574615478515625	0.000000000931322574615478515625	0.000000000931322574615478515625	0.000000000931322574615478515625
32	0.0000000004656612873077392578125	0.0000000004656612873077392578125	0.0000000004656612873077392578125	0.0000000004656612873077392578125
33	0.00000000023283064365386962890625	0.00000000023283064365386962890625	0.00000000023283064365386962890625	0.00000000023283064365386962890625
34	0.000000000116415321826934814453125	0.000000000116415321826934814453125	0.000000000116415321826934814453125	0.000000000116415321826934814453125
35	0.0000000000582076609134674072265625	0.0000000000582076609134674072265625	0.0000000000582076609134674072265625	0.0000000000582076609134674072265625
3				

MACH	ALPHA	QL	QDF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.200	-.26670	.06260	.07940	-.29760	.04148	-.00190	.00050	.00600	.75000	.04598
.260	-2.120	-.16940	.05520	.06040	-.19140	.04821	-.00200	.00050	.00600	.80400	.04521
.260	.000	-.09240	.05090	.06210	-.09240	.05050	-.00200	.00050	.00600	.97600	.04427
.260	2.050	.00130	.05010	.06470	.00310	.05005	-.00190	.00060	.00500	-9.26800	.04333
.260	4.150	.09660	.05100	.06700	.10220	.04375	-.00200	.00050	.00600	.33600	.04326
.260	6.260	.19340	.05470	.06970	.19640	.05352	-.00210	.00050	.00600	.48300	.04097
.260	8.390	.29370	.06420	.09130	.29990	.02075	-.00210	.00050	.00600	.53700	.04225
.260	10.470	.39550	.07660	.09220	.40320	.00539	-.00240	.00020	.00700	.56500	.04202
.260	12.600	.50100	.09990	.09240	.51070	-.01179	-.00290	.00030	.00900	.58300	.04243
.260	14.710	.61060	.12870	.09020	.62330	.03066	-.00310	.00060	.01000	.59600	.04347
.260	16.820	.72650	.16780	.08380	.74400	-.04961	-.00290	.00060	.01000	.60800	.04515
.260	18.950	.83120	.23860	.07500	.86370	-.04425	-.01170	.00050	.02800	.61800	.04746
.260	21.090	.93600	.30080	.06750	.98340	-.05688	-.01160	.00060	.02900	.62400	.05051
.260	23.160	1.03660	.37570	.05980	1.10080	-.06270	-.00800	.00050	.02300	.62900	.05544
.260	25.330	1.12630	.45680	.05770	1.21530	-.06980	-.00780	.00060	.02200	.63200	.06003
CRASHOUT		.04606	-.00136	.00793	.04696	.00031	-.00000	.00000	-.00005	-.51917	-.00035

## TABULATED SOURCE DATA NUAL-735 0421A

(RDP119) ( 09 JUL 73 )

0421 B17C7 M4M4F3 W107E23V7R619

## REFERENCE DATA

SREF = 4.4119 50.FT. XMRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 ZREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPDRK = 35.000 CANARD = 20.000

RUN NO. 119/ 0 RV/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.230	-.28300	.06380	.08340	-.28690	.04276	-.00200	.00030	.00300	.75900	.04658
.260	-2.100	-.18350	.05570	.08370	-.18550	.04896	-.00210	.00020	.00600	.81900	.04682
.260	-.050	-.06950	.03220	.08650	-.06960	.03214	-.00220	.00020	.00600	1.00500	.04589
.260	2.050	.00700	.03260	.08790	.00890	.03237	-.00210	.00030	.00300	-2.96900	.04393
.260	4.130	.10220	.03360	.08890	.10580	.04614	-.00220	.00020	.00600	.34000	.04390
.260	6.240	.19760	.03650	.09060	.20280	.03666	-.00220	.00010	.00600	.48500	.04254
.260	8.340	.26440	.06630	.09190	.30090	.02291	-.00220	.00020	.00600	.53700	.04143
.260	10.460	.39540	.08790	.09110	.40350	.00776	-.00250	-.00030	.00600	.56600	.04059
.260	12.560	.50100	.09090	.08870	.51100	-.01045	-.00290	-.00010	.00600	.58500	.04160
.260	14.700	.61330	.10100	.08590	.62630	-.02976	-.00280	.00010	.01000	.59800	.04325
.260	16.850	.72760	.17050	.08250	.74590	-.04740	-.00280	.00010	.01000	.60900	.04383
.260	18.940	.83400	.23990	.07320	.86680	-.04383	-.01130	-.00550	.02800	.61800	.04785
.260	21.060	.93910	.30120	.06830	.98460	-.05646	-.01130	-.00610	.02800	.62400	.05066
.260	23.190	1.04180	.37640	.05990	1.10660	-.06252	-.00720	-.00460	.02300	.62900	.05531
.260	25.290	1.13180	.46070	.05990	1.21990	-.06704	-.00580	-.00680	.02200	.63200	.05984
.260	GRADIENT	.04604	-.00113	.02044	.04695	.00049	-.00002	-.00000	.00005	-.22189	-.00039

DATE 02 OCT 73 TABULATED SOURCE DATA NAME: 703 QAR1A

(NDP120) ( 09 JUL 73 )

0421 81707 M4M4F5 W407E23V7R6X9

PARAMETRIC DATA

BETA = .0000  
ELEVON = .0000  
VTLINE = .0000  
SPDRK = 55.000  
BDPLAP = -10.000  
AILRON = .0000  
RUDDCR = .0000  
CANARD = -10.000

REFERENCE DATA

WARP = 4.4119 SQ.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 120/ 0 RN/L = 1.85 GRADIENT INTERVAL = -3.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.240	-.26750	.06340	.06110	-.29140	.74202	-.00180	.00020	.00500	.72700	.04839
.260	-2.130	-.19190	.03460	.06230	-.19380	.04746	-.00160	.00020	.00400	.76800	.04732
.260	-.060	-.09590	.04680	.06370	-.09600	.04875	-.00180	.00010	.00400	.69400	.04653
.260	2.020	.00090	.04650	.06560	.00280	.04646	-.00180	.00030	.00300	-8.52100	.04149
.260	4.150	.00910	.04710	.06630	.10230	.03906	-.00200	.00020	.00500	.40300	.04470
.260	6.290	.19400	.03220	.07140	.19850	.03066	-.00200	.00000	.00500	.51700	.04306
.260	8.360	.29340	.06090	.07480	.29910	.01761	-.00210	.00000	.00500	.55700	.04243
.260	10.440	.39390	.07450	.07700	.40060	.00190	-.00240	-.00030	.00300	.57900	.04256
.260	12.590	.50010	.09560	.07980	.50890	-.01574	-.00320	-.00020	.00400	.59200	.04222
.260	14.660	.60640	.12370	.08010	.61990	-.03435	-.00320	.00030	.00900	.61200	.04306
.260	16.800	.72640	.16350	.07600	.74270	-.05341	-.00330	.00340	.07900	.62100	.04461
.260	18.930	.83220	.23410	.06630	.86320	-.04655	-.01250	-.00370	.02700	.62600	.04650
.260	21.070	.93920	.29460	.06210	.98240	-.06270	-.01190	-.00610	.02600	.63100	.05201
.260	23.190	1.04100	.37400	.05350	1.10420	-.06609	-.00640	-.00530	.02200	.63100	.05704
.260	25.310	1.12620	.45100	.05290	1.21100	-.07387	-.00560	-.00640	.01800	.63300	.06130
.260			-.00194	.00065	.04700	-.00026	-.00000	.00000	-.00000	-.47046	-.00044

GRADIENT

DATE 08 OCT 73

TABULATED SOURCE DATA NAAL-TDS 0821A

PAGE 74

0421 BITC7 M4M4FS M07E23V7R619

(RDP121) (09 JUL 73)

## REFERENCE DATA

SREF = 4.4119 56.17. YARP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YARP = .0000 INCHES  
 BREF = 37.5359 INCHES YARP = 16.2000 INCHES  
 SCALE = .0005 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = -20.000

RUN NO. 121/0 RNVL = 1.95 GRADIENT INTERVAL = -3.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.250	-.26790	.06540	.05740	-.29200	.04391	-.00140	.00040	.00500	.72200	.04894
.260	-2.170	-.19330	.09700	.06300	-.19330	.04966	-.00180	.00040	.00500	.73500	.04795
.260	-.080	-.06320	.05190	.05700	-.09320	.05145	-.00180	.00030	.00500	.87500	.04595
.260	2.010	.00070	.04860	.05670	.00240	.04856	-.00170	.00030	.00400	-6.29300	.04536
.260	4.090	.09320	.05040	.06100	.09660	.04355	-.00180	.00020	.00500	.42200	.04329
.260	6.190	.19310	.05400	.06430	.19780	.03266	-.00160	.00010	.00400	.53000	.04343
.260	8.310	.26930	.06270	.06770	.29530	.02027	-.00160	.00000	.00500	.56500	.04207
.260	10.460	.39760	.07560	.06970	.39610	.00339	-.00210	-.00030	.00700	.56500	.04277
.260	12.540	.49560	.09660	.07260	.50480	-.01336	-.00260	-.00030	.00900	.59600	.04232
.260	14.660	.60610	.12490	.07250	.61000	-.03254	-.00290	.00030	.00900	.60600	.04318
.260	16.790	.72390	.16420	.06830	.74030	-.03204	-.00290	.00030	.00900	.61500	.04500
.260	18.910	.82940	.23480	.05690	.86070	-.04669	-.01190	-.00570	.02700	.62400	.04775
.260	21.050	.93590	.29480	.05460	.97930	-.06105	-.01190	-.00630	.02700	.62900	.05093
.260	23.180	1.03620	.37320	.04700	1.10110	-.06552	-.00630	-.00620	.02400	.63400	.05649
.260	25.260	1.12060	.45060	.04730	1.21600	-.07096	-.00530	-.00690	.01900	.63500	.06167
.260	GRADIENT	.04603	-.00164	.00346	.04693	-.00016	-.00004	-.00012	-.00005	-.46242	-.00066

DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-705 0421A

(RDP122) ( 09 JUL 73 )

0421 B17C7 H3M1F5 W107E23V7R6X9

PARAMETRIC DATA

REFERENCE DATA

SRF = 4.4119 58.FT. XRP = 43.5974 INCHES  
 LRT = 19.2299 INCHES YRP = .0000 INCHES  
 BRP = 37.9359 INCHES ZRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

BETA = .000 SDPLAP = -16.000  
 ELEV = .000 AIRCON = .000  
 VTLIN = .000 RUCCER = .000  
 SPCBRK = 55.000 CANARD = .000

RUN NO. 122/ 0 RNL = 1.85 GRADIENT INTERVAL = -5.00/ 3.00

MACH	ALPHA	CL	COF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.260	-.26930	.06440	.06580	-.29330	.04272	-.002600	.00030	.00800	.73200	.04809
.260	-2.160	-.19170	.03460	.07070	-.19360	.04736	-.00200	.00120	.00800	.73200	.04827
.260	-.060	-.09490	.04910	.07320	-.09500	.04903	-.00200	.00020	.00800	.93300	.04566
.260	2.040	.00300	.04770	.07680	.00470	.04759	-.00190	.00030	.00300	-5.36000	.04415
.260	4.170	.10140	.04890	.08210	.10470	.04145	-.00190	.00020	.00300	.36100	.04349
.260	6.240	.19690	.05340	.08720	.20320	.03134	-.00210	.00010	.00800	.49100	.04343
.260	8.340	.29920	.06430	.09270	.30340	.02021	-.00220	.00000	.00800	.53800	.04116
.260	10.470	.40340	.07760	.09730	.41060	.00907	-.00250	-.00020	.00800	.56200	.04306
.260	12.540	.50950	.09060	.10070	.51860	-.01477	-.00300	.00000	.00900	.57600	.04426
.260	14.710	.62050	.12900	.10160	.63290	-.03277	-.00340	.00040	.01000	.59000	.04455
.260	16.850	.73940	.17000	.09920	.75700	-.05167	-.00350	.00060	.01000	.60100	.04636
.260	18.950	.84730	.24060	.08970	.87960	-.04747	-.01120	.00080	.02600	.61200	.04952
.260	21.100	.95220	.30230	.08220	.99720	-.08188	-.01190	-.00150	.02500	.61900	.05250
.260	23.210	1.05420	.38270	.07310	1.11970	-.06366	-.01850	-.00140	.02200	.62500	.05660
.260	25.330	1.15000	.46460	.06610	1.23630	-.07199	-.00370	-.00610	.01900	.62900	.06166
.260			-.00161	.00167	.04721	-.00012	.00001	-.00000	-.00014	-.32553	-.00035

GRADIENT

(RDP123) ( 09 JUL 73 )

0421 B17C7 HSNAP5 W507C23V7R6X9

REFERENCE DATA

BREF = 4.4119 88.877. XRRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YRRP = .0000 INCHES  
 BREF = 37.9399 INCHES ZRRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
 ELEVON = .000 AILRON = .000  
 VTLINE = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = 10.000

RUN NO. 123/ 0 RNVL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CL	CLM	CN	CAF	CYN	CBL	CY	KCP/L	CAB
.260	-4.250	.06310	-.28930	.04174	-.00190	.00030	.00600	.75200	.04802
.260	-2.120	.05580	-.16700	.04879	-.00200	.00040	.00600	.81600	.04326
.260	-.020	.05290	-.06720	.03247	-.00200	.00030	.00600	1.02800	.04396
.260	2.090	.05120	.00940	.05095	-.00210	.00030	.00600	-2.99500	.04395
.260	4.130	.05360	.10930	.04616	-.00210	.00030	.00600	.31700	.04304
.260	6.270	.05930	.20810	.05686	-.00220	.00010	.00700	.46500	.04199
.260	8.330	.06030	.30660	.02401	-.00230	.00020	.00700	.52700	.04225
.260	10.900	.06230	.41440	.00666	-.00240	-.00010	.00800	.55200	.04325
.260	12.600	.10430	.52230	-.01004	-.00300	.00020	.00900	.57200	.04405
.260	14.710	.13330	.63490	-.02661	-.00330	.00060	.00900	.58800	.04474
.260	16.620	.17300	.75480	-.04735	-.00370	.00060	.00500	.60100	.04573
.260	18.950	.24460	.87830	-.04302	-.01210	-.00480	.02600	.61200	.04867
.260	21.100	.30610	.99760	-.05686	-.01170	-.00550	.02600	.61800	.05154
.260	23.220	.36540	1.12410	-.06516	-.00780	-.00400	.02100	.62400	.05664
.260	25.330	.47000	1.24330	-.06889	-.00630	-.00520	.02100	.62700	.06125
.260	GRADIENT	-.00110	.04736	.00052	-.00702	-.00000	-.00000	-.22226	-.00000



DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-733 0821A

PAGE 77

0821 B17C7 H5M4IF5 W107E23V7R6X9

(RDP:24) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9398 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

BETA = .000 BCFAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SFCBRK = 55.000 CANARD = 20.000

## PARAMETRIC DATA

RUN NO. 124/ 0 RN/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.240	-.28250	.06680	.09580	-.28670	.04574	-.00200	.00040	.00600	.77200	.04560
.260	-2.130	-.18250	.06010	.09050	-.18470	.05327	-.00210	.00030	.00600	.84500	.04507
.260	-.020	-.08540	.03520	.10110	-.06540	.05323	-.00220	.00030	.00600	1.08500	.04675
.260	2.040	.00610	.05630	.10240	.01010	.05598	-.00200	.00030	.00600	-3.04900	.04444
.260	4.140	.10430	.05880	.10490	.10820	.05116	-.00210	.00030	.00600	.29500	.04367
.260	6.250	.19970	.06400	.10630	.20550	.04187	-.00210	.00030	.00700	.45900	.04224
.260	8.350	.29520	.07190	.10830	.30250	.02828	-.00220	.00030	.00700	.51800	.04104
.260	10.470	.39760	.08540	.10770	.40650	.01176	-.00220	.00030	.00600	.55200	.04120
.260	12.590	.50070	.10610	.10800	.51180	-.00356	-.00290	.00000	.01000	.57300	.04176
.260	14.730	.61240	.13640	.10390	.62890	-.02378	-.00330	.00050	.01100	.56800	.04254
.260	16.890	.73360	.17820	.09680	.75370	-.04216	-.00320	.00020	.01100	.60100	.04435
.260	18.980	.84010	.24860	.09020	.87530	-.03825	-.01140	-.00480	.02600	.61100	.04720
.260	21.110	.94850	.31150	.08760	.99660	-.05091	-.01130	-.00510	.02500	.61700	.05024
.260	23.220	1.05480	.36990	.07990	1.12310	-.05759	-.00740	-.00400	.02100	.62300	.05553
.260	25.360	1.16310	.48170	.07470	1.25730	-.06299	-.00590	-.00600	.02000	.62700	.06068
GRADIENT		.04807	-.00395	.00109	.04714	.00045	-.00020	-.00000	.00000	-.25165	-.00021

### PARAMETRIC DATA

BETA	=	.000	BOPLAP	=	-10.000
ELEVON	=	.000	AILRON	=	.000
VTLINC	=	.000	RUGGER	=	.000
SPOORS	=	55.000	CANARD	=	-20.000

### REFERENCE DATA

BODY = 4.4119 IN. FT.      YARP = 43.9974 INCHES  
 LARY = 19.2299 INCHES      YARP = .0000 INCHES  
 BODY = 37.9399 INCHES      ZARP = 16.2000 INCHES  
 SCALE = .0005 SCALE

**SLOPE = 1.05 CRABBIT INTERVAL = -5.00/ 5.70**

WACH	ALPHA	CL	COF	CLM	CN	CAF	CYN	COL	CY	XCP/L	CAB
.260	-4.290	-.29260	-.06740	.04770	-.29710	.04537	-.00140	.00030	.00500	.70400	.04691
.260	-2.160	-.19370	.03670	.0905	-.19770	.04924	-.00150	.00030	.00500	.74400	.04749
.260	-.060	-.09650	.03070	.05470	-.09650	.05068	-.00160	.00040	.00500	.69400	.04516
.260	1.990	-.00270	.04610	.05870	-.00100	.04625	-.00160	.00040	.00500	21.45400	.04476
.260	4.100	.09430	.04670	.06520	.06750	.04169	-.00170	.00020	.00500	.48400	.04343
.260	6.200	.19100	.03350	.07040	.19570	.03264	-.00160	.00010	.00600	.51700	.04155
.260	8.350	.29010	.06160	.07550	.29600	.01696	-.00180	.00020	.00600	.55500	.04151
.260	10.450	.39360	.07550	.08080	.40100	.01267	-.00210	-.00020	.00800	.58700	.04116
.260	12.570	.50060	.09550	.06620	.50950	-.01561	-.00250	.00030	.00900	.59700	.04176
.260	14.660	.61110	.12500	.06910	.62250	-.033592	-.00350	.00040	.01000	.59700	.04202
.260	16.630	.72960	.16450	.06720	.74600	-.05376	-.00290	.00040	.01100	.61600	.04374
.260	18.950	.83940	.23560	.07940	.67050	-.04956	-.00190	-.00160	.02700	.61600	.04720
.260	21.060	.94700	.29660	.07710	.99040	-.06372	-.00120	-.00620	.02600	.62100	.05116
.260	23.190	1.04950	.37660	.07010	1.11260	-.06715	-.00790	-.00470	.02100	.62600	.05689
.260	25.330	1.14400	.45690	.07000	1.23040	-.07462	-.00510	-.00630	.01600	.62600	.06122
GRADIENT		.04617	-.00220	.00202	.04706	-.00036	-.00003	-.00000	-.00000	.95063	-.00049



DATE 12 OCT 73

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 79

(ADP126) ( 09 JUL 73 )

0A21 BITC7 HSM4FS MADTE23V7R6X9

#### REFERENCE DATA

SRDF = 4.4119 94.FT. XDRP = 43.5974 INCHES  
LNEY = 19.2299 INCHES YMRP = .0000 INCHES  
SRDF = 37.9339 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

#### PARAMETRIC DATA

BETA = .000 BDPLAP = -16.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = -20.000

RUN NO. 126/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	KCP/L	CAB
.260	-4.260	-.29530	.07070	.04120	-.29960	.04834	-.00130	.00040	.00500	.70000	.04865
.260	-2.190	-.19670	.06110	.04190	-.20020	.5356	-.00140	.00050	.00500	.72800	.04789
.260	-.090	-.10190	.05480	.04270	-.10190	.05471	-.00150	.00050	.00400	.60400	.04615
.260	2.020	-.00300	.05180	.04480	-.00320	.05200	-.00160	.00050	.00500	5.77700	.04505
.260	4.110	.09010	.05240	.04940	.09360	.04584	-.00140	.00040	.00500	.45500	.04357
.260	6.210	.18690	.05370	.05970	.19180	.03519	-.00160	.00020	.00600	.54400	.04297
.260	8.320	.28570	.06440	.08030	.29270	.02242	-.00150	.00010	.00600	.57300	.04178
.260	10.420	.39970	.07690	.06380	.39640	.00522	-.00160	-.00010	.00800	.58800	.04234
.260	12.990	.49610	.09770	.07110	.50530	-.01328	-.00240	.00000	.00900	.59600	.04244
.260	14.860	.60440	.12560	.07280	.61660	-.03149	-.00280	.00050	.00900	.60600	.04246
.260	16.810	.72270	.16480	.07680	.73940	-.05144	-.00270	.00030	.01000	.61400	.04395
.260	18.920	.83190	.23430	.06370	.86260	-.04606	-.01150	-.00560	.02800	.62200	.04765
.260	21.070	.93660	.29990	.06120	.98230	-.06135	-.01110	-.00630	.02700	.62600	.05029
.260	23.160	1.04260	.37250	.05640	1.10310	-.06807	-.00670	-.00450	.02500	.63100	.05347
.260	25.310	1.13270	.45490	.05790	1.21830	-.07341	-.00470	-.00610	.01900	.63200	.06147
.260	GRADIENT	.04592	-.00219	.00392	.04687	-.00033	-.00002	-.00000	.00000	.21810	-.00062

### PARAMETRIC DATA.

BETA	=	.000	BFLAP	=	-10.000
ELEVON	=	5.000	AILRON	=	.000
WTLINC	=	.000	RUDDER	=	.000
SPORK	=	55.000	CANARD	=	.000

1077.0 PW/1 = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	QL	QDF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.150	-1.9630	.05600	.03120	-.20000	.04369	-.00170	.00090	.00500	.70700	.04926
.260	-2.070	-1.0120	.03260	.03220	-.10300	.04916	-.00170	.00093	.00500	.76400	.04609
.260	.040	-.00340	.03050	.03260	-.00330	.05053	-.00160	.00080	.00400	4.21700	.04701
.260	2.140	.09360	.03240	.03420	.09370	.04690	-.00170	.00070	.00400	.51800	.04499
.260	4.230	.19120	.03550	.03490	.19460	.04122	-.00190	.00080	.00500	.56100	.04502
.260	6.330	.26750	.06250	.03740	.29270	.03040	-.00200	.00040	.00400	.60200	.04474
.260	8.430	.36690	.07500	.03960	.39370	.01716	-.00220	.00020	.00400	.61200	.04366
.260	10.560	.46940	.09250	.04140	.49670	.00130	-.00250	.00000	.00600	.61900	.04367
.260	12.660	.59130	.11640	.04320	.60250	-.01606	-.00300	-.00010	.00700	.62300	.04406
.260	14.760	.69960	.14820	.04320	.71430	-.03520	-.00300	.00050	.00700	.62700	.04505
.260	16.910	.81660	.19250	.03960	.83920	-.05392	-.00310	.00100	.00600	.63200	.04634
.260	19.030	.92460	.26660	.03230	.95740	-.04631	-.01250	-.00640	.00600	.63700	.05025
.260	21.170	1.02250	.33170	.02790	1.07330	-.06200	-.01160	.00670	.00500	.64000	.05337
.260	23.300	1.12250	.41470	.01920	1.19310	-.06308	-.00620	.00390	.01600	.64300	.05900
.260	25.420	1.20350	.50050	.01920	1.30370	-.06530	-.00410	.00520	.01300	.64400	.06295
GRADIENT		.04626	-.00266	.00054	.04713	-.00225	-.00002	-.00004	-.00005	-.00262	-.00035



DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-705 021A

(RDP128) ( 09 JUL 73 )

021 B17C7 KEN4F3 M107E23V7R619

## PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
ELEVON = 5.000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = 10.000

## REFERENCE DATA

BREF = 4.4119 38.FT. XGRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YGRP = .0000 INCHES  
BREF = 37.9359 INCHES ZGRP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 128/ D RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.260	-4.180	-1.9470	.05660	.03620	-1.1940	.04428	-.00190	.00090	.00600	.71700	.04793
.260	-2.070	-.09890	.05330	.03750	-1.10070	.04974	-.00180	.00760	.00500	.78600	.04706
.260	.000	-.00420	.05070	.03640	-.00420	.05072	-.00180	.00030	.00500	4.00900	.04753
.260	2.110	.09460	.05330	.03990	.09550	.04984	-.00190	.00080	.00500	.49700	.04310
.260	4.210	.19100	.05710	.04260	.19460	.04297	-.00200	.00070	.00500	.56900	.04499
.260	6.330	.26730	.06520	.04540	.29270	.03316	-.00220	.00050	.00500	.59200	.04404
.260	8.420	.36600	.07630	.04750	.39310	.01899	-.00250	.00030	.00600	.60500	.04403
.260	10.590	.49160	.09420	.04890	.50050	.00257	-.00270	.00000	.00700	.61300	.04467
.260	12.660	.59360	.11920	.04970	.60590	-.01385	-.00300	.00060	.00700	.61800	.04437
.260	14.760	.70450	.15140	.04970	.71940	-.03328	-.00310	.00100	.00800	.62400	.04621
.260	16.890	.81870	.19530	.04680	.84010	-.05106	-.01260	-.00610	.00800	.63000	.04694
.260	19.000	.92100	.26940	.03760	.95650	-.04524	-.01230	-.00610	.02700	.63500	.05036
.260	21.130	1.02500	.33430	.03150	1.07680	-.03776	-.01230	-.00610	.02900	.63900	.05394
.260	23.270	1.12200	.41960	.01970	1.19660	-.03754	-.00760	-.01430	.01900	.64300	.05996
.260	25.360	1.20350	.50130	.01960	1.30220	-.06303	-.00480	-.00530	.01400	.64400	.06221
.260	GRADIENT	.04612	-.00014	.00073	.04700	-.00212	-.00001	-.00002	-.00010	-.02934	-.00034

DATE 02 OCT 73

(RDP129) ( 09 JUL 73 )

TABULATED SOURCE DATA NAAL-705 0421A

0421 817C7 KCM4F5 W07E23V7R6X9

PARAMETRIC DATA

REFERENCE DATA

SHEF = 4.4119 96.FT. XGRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YGRP = .0000 INCHES  
SREF = 37.9399 INCHES ZGRP = 16.2000 INCHES  
SCALE = .0405 SCALE

BETA = .000 BOPLAP = -18.000  
ELEVON = 5.000 ATLON = .000  
VTLINE = .000 RUDDER = .000  
SPORRK = 55.000 CANARD = 20.000

RUN NO. 129/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.160	.05910	.04160	-.19520	.04513	-.00170	.00100	.00500	.72600	.04784
.260	-2.060	.05470	.04320	-.09650	.05124	-.00160	.00090	.00500	.81100	.04759
.260	.020	.05370	.04460	-.00010	.03375	-.00170	.00060	.00500	32.76700	.04731
.260	2.120	.05590	.04750	.09610	.03236	-.00160	.00070	.00600	.47100	.04626
.260	4.210	.09610	.04990	.19620	.04696	-.00200	.00070	.00600	.55600	.04475
.260	6.320	.06890	.05160	.29300	.03675	-.00230	.00060	.00600	.58400	.04368
.260	8.420	.06040	.05410	.39040	.02349	-.00260	.00040	.00600	.59800	.04225
.260	10.530	.09750	.05460	.49490	.00698	-.00290	.00030	.00600	.60900	.04277
.260	12.660	.12140	.05340	.60360	-.01108	-.00320	.00010	.00600	.61700	.04426
.260	14.790	.15450	.05200	.71560	-.02674	-.00350	.00100	.00600	.62300	.04423
.260	16.990	.19720	.04220	.83760	-.04627	-.00330	.00110	.00600	.63100	.04600
.260	19.020	.27100	.03260	.95560	-.04260	-.01260	-.00620	.02800	.63700	.04925
.260	21.130	.33500	.02780	1.07150	-.05499	-.01270	-.00580	.02500	.64000	.05294
.260	23.260	.41790	.01830	1.19180	-.05750	-.00770	-.00300	.01600	.64400	.05754
.260	25.360	.50370	.01930	1.30440	-.06145	-.00560	-.00480	.01400	.64800	.06220
GRADIENT	.04564	.00026	.00100	.04677	.00020	-.00003	-.00014	.00014	-.03416	-.00036

DATE 02 OCT 73 TABULATED SOURCE DATA NAAL-703 0421A

(RDP130) ( 09 JUL 73 )

0421 B17C7 K2M4F5 M107E23V7R6X9

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
ELEVON = 10.000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDBRK = 55.000 CANARD = 20.000

REFERENCE DATA

WREF = 4.4119 36.FT. WREF = 43.9974 INCHES  
LREF = 19.2299 INCHES YREF = .0000 INCHES  
WREF = 37.9359 INCHES ZREF = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 130/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	COL	CY	XCP/L	CAB
.280	-4.090	-.06650	.05610	-.00670	-.09030	.04986	-.00140	.00070	.00400	.61400	.05431
.280	-2.000	.00340	.05420	-.00700	.00330	.05443	-.00140	.00080	.00400	1.37800	.05441
.280	.090	.10290	.05710	-.00820	.10280	.05700	-.00140	.00090	.00400	.67200	.05249
.280	2.200	.20060	.06350	-.00210	.20310	.05580	-.00180	.00090	.00400	.65300	.05005
.280	4.290	.29780	.07220	.00090	.30210	.04972	-.00200	.00090	.00500	.64800	.04680
.280	6.400	.39120	.08350	.00290	.39810	.03934	-.00290	.00080	.00600	.64700	.04707
.280	8.500	.48670	.09820	.00520	.49590	.02517	-.00290	.00090	.00600	.64500	.04537
.280	10.610	.56970	.11910	.00540	.60290	.00861	-.00330	.00100	.00700	.64600	.04627
.280	12.750	.69550	.14710	.00290	.71080	-.00980	-.00340	.00120	.00500	.64800	.04732
.280	14.850	.80420	.18470	-.00100	.82470	-.02768	-.00400	.00240	.00600	.65000	.04732
.280	16.970	.91970	.23210	-.00670	.94740	-.04656	-.00410	.00220	.00700	.65300	.04890
.280	19.080	1.01180	.31100	-.01630	1.05790	-.03691	-.01460	-.00780	.03100	.65500	.05227
.280	21.200	1.11240	.38140	-.02040	1.17500	-.04653	-.01440	-.00680	.02800	.65600	.05577
.280	23.330	1.23510	.46820	-.02930	1.29240	-.04654	-.00920	-.00470	.02000	.65800	.06096
.280	25.440	1.27990	.55110	-.02330	1.39260	-.03223	-.00610	-.00570	.01400	.65500	.06459
.280	GRADIENT	.04597	.00198	.00115	.04697	.00005	-.00006	.00002	.00010	-.03139	-.00077

DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-TDS ON21A

QAS1 B17C7 H241F5 W107E23VTR019

(RDP131) ( 09 JUL 73 )

REFERENCE DATA

SREF = 4.4119 58.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

BETA = .0000 BDFLAP = -10.000  
 ELEVON = 10.000 AILRON = .000  
 VTILNC = .000 RUDDER = .000  
 SPOBRK = 55.000 CANARD = 10.000

PARAMETRIC DATA

RUN NO. 131/ 0 RV/L = 1.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.100	-.06780	.04470	-.01590	-.09150	.04832	-.00120	.00080	.00400	.56500	.05510
.260	-1.990	.00770	.03240	-.01490	.00590	.05268	-.00130	.00070	.00400	1.57800	.05428
.260	.090	.10360	.05450	-.01360	.10360	.05441	-.00140	.00070	.00400	.69800	.05293
.260	2.200	.20160	.05600	-.01180	.20370	.05026	-.00140	.00070	.00400	.67100	.05320
.260	4.280	.29350	.06790	-.00710	.29760	.04582	-.00170	.00050	.00300	.65800	.04909
.260	6.390	.39030	.07940	-.00340	.39670	.03548	-.00210	.00030	.00600	.65300	.04729
.260	8.530	.48690	.09390	-.00120	.49740	.02039	-.00220	.00020	.00800	.65000	.04773
.260	10.610	.59030	.11330	.00040	.60150	.00467	-.00220	.00000	.00800	.64900	.04806
.260	12.730	.69650	.14360	.00090	.71110	-.01325	-.00270	.00020	.00800	.64900	.04876
.260	14.850	.80460	.18100	.00000	.82410	-.03126	-.00320	.00080	.00700	.64900	.04869
.260	16.970	.91910	.22780	-.00480	.94560	-.05038	-.00330	.00100	.02900	.65100	.05049
.260	19.060	1.01370	.30780	-.01090	1.05860	-.06045	-.01470	-.00840	.02900	.65300	.05330
.260	21.210	1.11250	.37900	-.01550	1.17430	-.04911	-.01360	-.00720	.02700	.65400	.05642
.260	23.340	1.20860	.46890	-.02690	1.29550	-.04844	-.00780	-.00550	.01900	.65700	.06194
.260	25.440	1.27900	.54860	-.02150	1.39070	-.05424	-.00500	-.00680	.01400	.65500	.06512
GRADIENT		.04564	.00153	.00099	.04659	-.00035	-.00005	-.00003	.00010	-.03613	-.00062





DATE OF OCT 73

TABULATED SOURCE DATA MAIL-735 0A21A

PAGE 85

0A21 B17C7 K2M4F5 W107E23V7R6X9

(NDP132) (09 JUL 73)

REFERENCE DATA

SREF = 4.4119 56.FT. XMRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

BETA = .000 BOFLAP = -16.000  
ELEVON = 10.000 AILRON = .000  
VTLMC = .000 RUOSER = .000  
SFCBRK = 55.000 CANARD = .000

PARAMETRIC DATA

RUN NO. 132/ 0 RNU/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.090	-.06950	.05570	-.02100	-.09330	.04916	-.00130	.00070	.00400	.56800	.05436
.260	-2.000	.00610	.05310	-.01980	.00430	.05328	-.00120	.00080	.00300	2.34200	.05410
.260	.060	.10180	.05370	-.01950	.10190	.05356	-.00130	.00080	.00300	.71900	.05282
.260	2.170	.19760	.03750	-.01830	.19970	.05003	-.00160	.00080	.00400	.68300	.05207
.260	4.270	.29080	.06670	-.01410	.29570	.04487	-.00190	.00050	.00500	.66700	.04827
.260	6.360	.36900	.07710	-.01190	.39510	.03341	-.00220	.00040	.00600	.66000	.04772
.260	8.460	.46610	.09220	-.00970	.49440	.01951	-.00240	.00040	.00600	.65700	.04724
.260	10.590	.56490	.11310	-.00810	.59570	.00374	-.00260	.00020	.00700	.65400	.04671
.260	12.720	.66970	.14090	-.00700	.70380	-.01439	-.00300	.00030	.00800	.65300	.04709
.260	14.830	.79730	.17630	-.00620	.81580	-.03368	-.00320	.00110	.00700	.65200	.04772
.260	16.950	.91400	.22380	-.01000	.93960	-.05240	-.00310	.00130	.00700	.65300	.04944
.260	19.090	1.01080	.30390	-.01570	1.05480	-.04342	-.01370	-.00760	.03000	.65300	.05284
.260	21.210	1.10890	.37510	-.01910	1.16950	-.05151	-.01260	-.00610	.02800	.65300	.05622
.260	23.330	1.20690	.46430	-.02870	1.29210	-.05159	-.00710	-.00610	.02100	.65800	.06211
.260	25.440	1.27260	.54330	-.01960	1.36260	-.05660	-.00380	-.00370	.01300	.65500	.06556
GRADIENT		.04556	.00127	.00073	.04653	-.04057	-.00206	-.00003	.00014	-.06964	-.00066

DATE 08 NOV 73

TABULATED SOURCE DATA NAAL-705 0A21A

(XDP133) ( 08 NOV 73 )

0A21 B17CH3M4F5 W107E23V7R6X9

## PARAMETRIC DATA

## REFERENCE DATA

BETA = .000 BDFLAP = -18.000  
 ELEVON = 10.000 'ILRON = .000  
 VLLINC = .000 RUDDER = .000  
 SPOSRK = 55.000 CANARD = .000

SREF = 4.4119 S4.FT. XGRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YGRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZGRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 133/ 0 RN/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.260	-4.090	-.09010	.05660	-.02310	-.09390	.09011	-.00120	.00090	.00400	.55800	.05278
.260	-2.020	.00360	.05460	-.01990	.00170	.05477	-.00140	.00070	.00400	4.87400	.05157
.260	.085	.10190	.05460	-.01780	.10160	.05490	-.00140	.00070	.00400	.71400	.05122
.260	2.200	.19900	.05890	-.01440	.20110	.05083	-.00160	.00070	.00400	.67600	.05051
.260	4.280	.29360	.06630	-.01070	.29790	.04421	-.00170	.00060	.00500	.66300	.04857
.260	6.390	.39120	.07780	-.00630	.39790	.03373	-.00200	.00040	.00600	.65500	.04793
.260	8.500	.49160	.09330	-.00270	.50000	.01959	-.00210	.00030	.00600	.65100	.04739
.260	10.610	.59140	.11430	-.00170	.60230	.00342	-.00230	.00030	.00700	.64800	.04769
.260	12.760	.69870	.14190	.00420	.71280	-.01584	-.00280	.00040	.00700	.64700	.04916
.260	14.860	.80690	.17840	.00410	.82560	-.03444	-.00350	.00130	.00600	.64900	.05119
.260	16.970	.92490	.22660	.00120	.95070	-.05316	-.01430	-.00840	.00000	.65900	.05419
.260	19.100	1.02100	.30590	-.00240	1.06520	-.04423	-.01350	-.00710	.02700	.65000	.05582
.260	21.240	1.11890	.37910	-.00360	1.18020	-.05206	-.01350	-.00750	.01800	.65300	.06194
.260	23.360	1.21850	.47020	-.01230	1.30510	-.05167	-.00750	-.00650	.01300	.65200	.06699
.260	25.470	1.29980	.55400	-.01020	1.41170	-.05887	-.00540	-.00650	.00010	-.19164	-.00045
.260	GRADIENT	.04595	.00111	.00145	.04690	-.00075	-.00006	-.00003			



DATE: 08 NOV 73

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 87

(NDF134) ( 08 NOV 73 )

0A21 B17CTH3MFP5 W107E5V7R6N5

REFERENCE DATA

8827 = 4.4119 84.FT. XAPP = 43.9974 INCHES  
LREF = 19.2299 INCHES YAPP = .0000 INCHES  
8827 = 37.9399 INCHES ZAPP = 16.2000 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
ELEVON = 10.000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SFD5RK = 95.000 CANARD = 10.000

RUN NO. 134/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALFA	CL	CDP	CLM	ON	CAP	CYN	CEL	CY	XCP/L	CAB
.260	-4.120	-.06600	.05660	-.01180	-.09180	.05012	-.00130	.00060	.00400	.60200	.05297
.260	-2.010	.00640	.05520	-.00810	.00450	.05546	-.00140	.00060	.00400	1.31400	.05167
.260	.080	.10270	.05660	-.00480	.10260	.05671	-.00160	.00070	.00500	.66700	.05102
.260	2.180	.20030	.06180	-.00000	.20260	.05419	-.00170	.00070	.00400	.65100	.05080
.260	4.290	.29770	.07020	.00410	.30210	.04770	-.00170	.00060	.00500	.64400	.04860
.260	6.400	.39330	.08210	.00690	.40000	.03771	-.00220	.00030	.00600	.64100	.04722
.260	8.510	.49190	.09710	.01220	.50080	.02325	-.00260	.00040	.00600	.64000	.04785
.260	10.620	.59307	.11600	.01360	.60350	.00829	-.00320	.00060	.00600	.64100	.04895
.260	12.740	.70240	.14720	.01430	.71780	-.01131	-.00350	.00140	.00600	.64200	.05009
.260	14.870	.81390	.18450	.01490	.83360	-.03042	-.00360	.00150	.00600	.64300	.05120
.260	16.980	.92780	.23370	.00920	.95540	-.04755	-.00360	-.00710	.00600	.64600	.05140
.260	19.120	1.02420	.31360	.00270	1.07040	-.03909	-.01490	-.00660	.02700	.65000	.05229
.260	21.220	1.12020	.36340	-.00060	1.16310	-.04609	-.01470	-.00640	.02500	.65000	.05272
.260	23.390	1.21770	.47570	-.01490	1.30570	-.04776	-.00960	-.00490	.01800	.65400	.05276
.260	25.460	1.30060	.55640	-.01260	1.41440	-.05504	-.00430	-.00640	.01500	.65300	.05300
GRADIENT		.04994	.00161	.00167	.04693	-.00029	-.00005	-.00102	.00010	-.02745	-.00047

DATE 08 NOV 73

(XDP135) (08 NOV 73)

0A21 B17C7H3M4F5 W107E23V7R6X9

PARAMETRIC DATA

BETA = .000  
ELEVON = 10.000  
VTILINC = .000  
SPDRK = 55.000

SRCP = 4.4119 SQ.FT.  
LREF = 19.2299 INCHES  
BREF = 37.9359 INCHES  
SCALE = .0405 SCALE

RUN NO. 135/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

REFERENCE DATA

MACH	ALPHA	CL	CD	CM	CM	CAF	CYN	CBL	CY	XCP/L	CAB
.280	-4.090	-.08560	.05630	-.00010	-.08970	.05211	-.00160	.00070	.00500	.64900	.05265
.280	-1.930	.00770	.03780	.00480	.00580	.05806	-.00160	.00060	.00400	.35800	.05131
.280	.100	.10390	.05990	.00760	.10600	.05980	-.00170	.00090	.00400	.52300	.05220
.280	2.210	.20340	.06680	.00940	.20580	.05871	-.00190	.00090	.00400	.63200	.05027
.280	4.290	.29830	.07610	.01330	.30320	.05361	-.00190	.00060	.00500	.63500	.04824
.280	6.410	.39300	.08790	.01760	.40030	.04349	-.00210	.00070	.00800	.63300	.04733
.280	8.510	.48790	.10230	.02020	.49730	.02898	-.00220	.00060	.00800	.63400	.04656
.280	10.600	.58400	.12310	.02160	.59660	.01359	-.00270	.00070	.00600	.63800	.04451
.280	12.740	.69140	.15120	.02000	.70780	-.00493	-.00390	.00070	.01100	.63900	.04531
.280	14.840	.79940	.18730	.01530	.82070	-.02368	-.00390	.00140	.00900	.64200	.04680
.280	16.960	.91820	.23590	.01560	.94710	-.04263	-.00370	.00140	.00800	.64700	.04771
.280	19.100	1.01690	.31440	-.00110	1.06360	-.03569	-.01360	-.01760	.03300	.65000	.05192
.280	21.210	1.11360	.38540	-.00480	1.17780	-.04366	-.01290	-.00720	.03200	.65100	.05519
.280	23.340	1.21630	.47640	-.01350	1.30590	-.04457	-.00730	-.00560	.02100	.65300	.06195
.280	25.460	1.30520	.56650	-.01100	1.42200	-.03003	-.00430	-.00650	.01600	.65200	.06552
GRADIENT		.04807	.00212	.00151	.04712	.00018	.00014	.00001	-.00000	.01136	-.00047



REFERENCE DATA  
SREF = 4.4119 36-FT. XGRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YGRP = .0000 INCHES  
BREF = 37.9339 INCHES ZGRP = 16.2000 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA  
BETA = .000 BOPLAP = -18.000  
ELEVON = 10.000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRBK = 55.000 CANARD = .000

RUN NO. 136/ 0 RVL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAP	CYN	CBL	CT	KCP/L	CAB
.200	-4.070	-.09080	.03420	-.02290	-.09440	.04769	-.00100	.00060	.00300	.56250	.03525
.200	-2.010	.00100	.03300	-.01990	-.00060	.05302	-.00110	.00070	.00200	-6.27200	.03334
.200	.070	.09560	.03270	-.01860	.09590	.05266	-.00130	.00060	.00300	.72200	.03330
.200	2.220	.19560	.03750	-.01700	.19770	.04974	-.00130	.00060	.00300	.66100	.03162
.200	4.260	.29920	.04150	-.01470	.29390	.04274	-.00160	.00050	.00300	.66900	.03076
.200	6.420	.36640	.07320	-.01220	.39430	.03145	-.00190	.00030	.00300	.66110	.04991
.200	8.500	.48440	.09070	-.00940	.49250	.01813	-.00190	.00030	.00300	.65870	.04662
.200	10.650	.56900	.11220	-.00770	.59660	.00131	-.00210	.00010	.00700	.65400	.04916
.200	12.740	.66920	.13620	-.00690	.70270	-.01723	-.00250	.00010	.00700	.65300	.04996
.200	14.840	.79640	.17340	-.00780	.81420	-.03644	-.00270	.00130	.00700	.65300	.03094
.200	16.960	.91230	.22160	-.01300	.93740	-.05435	-.00270	.00130	.00700	.65400	.03111
.200	19.080	1.00600	.30060	-.01640	1.04910	-.04466	-.01360	-.00610	.03100	.65500	.03301
.200	21.220	1.10290	.37030	-.02030	1.16220	-.05399	-.01290	-.00790	.02900	.65600	.03554
.200	23.350	1.19450	.45600	-.02960	1.27920	-.05296	-.00790	-.00570	.02200	.65900	.06137
.200	25.460	1.26560	.53670	-.02370	1.37430	-.03763	-.00450	-.00740	.01900	.65600	.06476
.210	GRADIENT	.04566	.00119	.00066	.04659	-.00063	-.00007	-.00001	.00024	.44066	-.00032

(RDP137) ( 09 JUL 73 )

0421 817C7 H4M4F5 14107E23VTR6N9

## REFERENCE DATA

SRCP = 5.4119 58.17. XCRP = 43.5974 INCHES  
LRCP = 19.2299 INCHES YMRP = .0000 INCHES  
BRCP = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOPLAP = -16.000  
ELEVON = 10.000 AIRLON = .000  
VTLINC = .000 RUDGER = .000  
SPDRK = 99.000 CANARD = 10.000

RUN NO. 137/ 0 RUL = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	COF	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.280	-4.090	-.06970	.05570	-.01210	-.09350	.04920	-.00190	.00070	.00500	.60100	.03380
.280	-2.000	.00510	.05360	-.00990	.00320	.05379	-.00140	.00060	.00400	1.78000	.03276
.280	.110	.10170	.05560	-.00790	.10170	.05567	-.00170	.00060	.00500	.87700	.05136
.280	2.160	.19670	.06040	-.00560	.19660	.05289	-.00180	.00060	.00500	.66000	.05054
.280	4.290	.29280	.06800	-.00350	.29700	.04592	-.00180	.00060	.00500	.65400	.04932
.280	6.360	.38700	.07530	-.00100	.39350	.03577	-.00200	.00060	.00500	.65000	.04722
.280	8.460	.48520	.09390	.00070	.49360	.02140	-.00220	.00040	.00600	.64900	.04756
.280	10.540	.58760	.11440	.00120	.59660	.00446	-.00250	.00010	.00700	.64900	.04791
.280	12.700	.69060	.14140	.00240	.70460	-.01391	-.00250	.00020	.00700	.64900	.04898
.280	14.830	.79950	.17760	-.00270	.81820	-.03277	-.00260	.00090	.00800	.65100	.04942
.280	16.970	.91540	.22560	-.00970	.94150	-.05123	-.00290	.00130	.00800	.65300	.05004
.280	19.060	1.02920	.30400	-.01690	1.03310	-.04228	-.01360	-.00770	.03100	.65500	.05111
.280	21.190	1.10480	.37990	-.02040	1.16520	-.05079	-.01260	-.00800	.03100	.65600	.05261
.280	23.310	1.20260	.46170	-.02690	1.26490	-.05104	-.00710	-.00560	.02300	.65800	.06155
.280	25.440	1.27150	.54300	-.02190	1.36150	-.05562	-.00400	-.00740	.01900	.65500	.06552
.280	GRADIENT	.04573	.00150	.00103	.04668	-.00036	-.00005	-.00001	.00005	-.04855	-.00046



DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-705 QAS1A

(RDP138) (09 JUL 73)

QAS1 B17C7 H4M4F5 V107E23VTR6X9

## REFERENCE DATA

SRP = 4.4119 58.17. 10RP = 43.9974 INCHES  
LRF = 19.2299 INCHES YMRP = .0000 INCHES  
SRP = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 DOFLAP = -18.000  
ELEVON = 10.000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = 20.000

RUN NO. 138/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.200	-4.080	-.09000	.03750	-.00410	-.09390	.05099	-.00170	.00060	.00300	.63300	.03281
.200	-1.960	.00350	.05570	-.00290	.00160	.05562	-.00150	.00060	.00400	1.31100	.03245
.200	.120	.10170	.03760	-.00200	.10190	.05764	-.00170	.00070	.00400	.65700	.03201
.200	2.220	.19910	.06340	-.00130	.20140	.05565	-.00160	.00060	.00500	.65500	.03030
.200	4.300	.29260	.07110	-.00010	.29710	.04694	-.00200	.00060	.00500	.64900	.04926
.200	6.400	.36710	.08260	.00160	.36390	.03696	-.00210	.00040	.00600	.64800	.04674
.200	8.500	.46270	.09630	.00230	.49170	.02361	-.00210	.00040	.00600	.64800	.04605
.200	10.620	.56290	.11630	.00220	.59440	.00692	-.00250	.00010	.00600	.64800	.04609
.200	12.740	.66670	.14420	-.00030	.70160	-.01064	-.00260	.00010	.00600	.65000	.04629
.200	14.860	.79430	.17940	-.00290	.81360	-.03033	-.00300	.00060	.00600	.65100	.04746
.200	16.970	.90940	.22750	-.00300	.93620	-.04767	-.00260	.00100	.01000	.65500	.04821
.200	19.090	1.00620	.30620	-.01590	1.03290	-.04039	-.01300	.00170	.03200	.65500	.05144
.200	21.240	1.10560	.37700	-.01950	1.16710	-.04918	-.01290	-.00760	.03100	.65500	.05569
.200	23.340	1.20070	.46510	-.02810	1.26670	-.04866	-.00790	-.00600	.02400	.65700	.06130
.200	25.450	1.27580	.54620	-.02120	1.36460	-.05427	-.00410	-.00660	.01700	.65500	.06633
GRADIENT	.04564	.00166	.00166	.00046	.04664	-.00020	-.00004	-.00002	.00005	-.02991	-.00044

(RDP139) ( 09 JUL 73 )

0A21 B17C7 H344F5 W-ATE23VTR83

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000  
ELEVON = 10.000 AILCON = .000  
VTLINE = .000 RUDDER = .000  
SPDRNK = 95.000 CANARD = .000

REFERENCE DATA

SRCP = 4.4119 94.17. XMRP = 43.9974 INCHES  
LRCP = 19.2299 INCHES YMRP = .0000 INCHES  
BRCP = 37.9359 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0493 SCALE

RUN NO. 139/ D RVL = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAP	CYN	CDL	CV	XCP/L	CAB
.260	-4.110	-.09390	.05650	-.02440	-.09770	.04943	-.00140	.00080	.00500	.55700	.05360
.260	-2.050	.00220	.05340	-.01970	.00060	.05551	-.00130	.00360	.00400	29.48600	.05039
.260	.060	.09780	.05450	-.01600	.09790	.05436	-.00150	.00060	.00400	.71000	.03190
.260	2.190	.19740	.05890	-.01210	.19930	.05129	-.00150	.00060	.00300	.67200	.05046
.260	4.260	.29260	.06660	-.00700	.29690	.04466	-.00170	.00060	.00300	.65600	.04899
.260	6.360	.39170	.07760	-.00170	.39790	.03355	-.00190	.00040	.00600	.65100	.04873
.260	8.500	.48930	.09350	.00300	.49780	.02017	-.00200	.00030	.00500	.64700	.04716
.260	10.620	.59200	.11420	.00740	.60290	.00306	-.00230	.00030	.00700	.64500	.04812
.260	12.710	.69680	.14250	.00960	.71110	-.01450	-.00270	.00030	.00700	.64400	.04639
.260	14.890	.80600	.17610	.01000	.82480	-.03453	-.00310	.00110	.00700	.64500	.05019
.260	16.960	.92440	.22610	.00660	.93010	-.03373	-.00320	.00140	.00700	.64700	.05222
.260	19.090	1.02100	.30540	.00100	1.06480	-.04536	-.01340	-.00730	.03000	.64900	.05426
.260	21.210	1.11410	.37490	-.00450	1.17430	-.03369	-.01320	-.00760	.02900	.65100	.05740
.260	23.340	1.21160	.46530	-.01470	1.29660	-.05295	-.00830	-.00460	.01900	.65400	.06265
.260	25.460	1.29130	.54950	-.01000	1.40210	-.05693	-.00490	-.00690	.01500	.65200	.06735
.260	27.580	1.36621	.60115	.00202	.04717	-.00065	-.00004	-.00002	-.00005	-1.36900	-.00044



DATE 02 OCT 73

(RDP160) ( 09 JUL 73 )

TABULATED SOURCE DATA NAL-705 0A21A  
0A21 B17C7 H3M4F5 M107E23V7R6R9

PARAMETRIC DATA  
BETA = .000 BOFLAP = -10.000  
ELEVON = 10.000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = 10.000

REFERENCE DATA  
SREF = 4.4119 94.FT. 10RP = 43.5974 INCHES  
LREF = 19.2299 INCHES YREF = .0000 INCHES  
BREF = 37.9339 INCHES ZREF = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 140/ 0 RML = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CL	CD	CLH	CH	CAF	CYN	CDL	CT	XCP/L	CAB
.200	-4.110	.06780	-.01000	-.09140	.04980	-.00130	.00070	.00300	.60900	.05328
.200	-1.990	.00780	-.00510	.00290	.05478	-.00150	.00280	.00400	.94600	.05272
.200	.060	.05410	-.00030	.10540	.05597	-.00180	.00090	.00400	.65100	.05286
.200	2.190	.06220	.00400	.20360	.05453	-.00170	.00080	.00400	.64200	.05040
.200	4.290	.07050	.00920	.30220	.04604	-.00200	.00060	.00500	.63600	.04945
.200	6.400	.08290	.01360	.40000	.03656	-.00190	.00050	.00700	.63700	.04702
.200	8.500	.09770	.01850	.49770	.02441	-.00220	.00030	.00700	.63600	.04757
.200	10.610	.11850	.01970	.60330	.00710	-.00240	.00030	.00700	.63700	.04832
.200	12.750	.14710	.01720	.71410	-.01060	-.00270	.00030	.00700	.64000	.04945
.200	14.930	.18280	.00540	.82670	-.03010	-.00320	.00100	.00700	.64400	.04996
.200	16.940	.23000	.00020	.94700	-.04647	-.00340	.00140	.00700	.64700	.05009
.200	19.100	.30900	.00020	1.06160	-.04087	-.01360	-.00700	.03100	.64900	.05264
.200	21.210	.40000	-.00200	1.17610	-.04956	-.01330	-.00750	.05000	.65000	.05643
.200	23.330	.48960	-.01050	1.30020	-.04945	-.00750	-.00550	.02100	.65200	.06290
.200	25.470	.55610	-.00790	1.41290	-.05490	-.00420	-.00700	.01700	.65100	.06725
GRADIENT	.04597	.00175	.00226	.04694	-.00016	-.00006	-.00001	.00019	-.01265	-.00046

DATE 02 OCT 75

TABULATED SOURCE DATA MAAL-TJS 0A21A  
(RDP141) ( 09 JUL 73 )

0A21 B17C7 H8HAF3 W10TE23V7R6X9

## PARAMETRIC DATA

## REFERENCE DATA

SREF = 4.4119 58.77. XMRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

BETA = .000 BDFAP = -18.000  
 ELEVON = 10.000 AILRON = .000  
 VTLLNC = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = 20.000

RUN NO. 141/ 0 RV/L = 1.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	COL	CY	XCP/L	CAB
.280	-4.090	-.08570	.05650	.00500	-.00970	.05222	-.00180	.00080	.00400	.67000	.05572
.280	-1.580	.00980	.05600	.00900	.00780	.05636	-.00180	.00090	.00500	.21600	.05289
.280	.090	.10590	.06110	.01200	.10600	.06097	-.00180	.00080	.00400	.60600	.05220
.280	2.220	.20090	.06700	.01280	.20640	.05906	-.00180	.00090	.00400	.62750	.05080
.280	4.280	.29740	.07900	.01430	.30220	.05257	-.00190	.00080	.00400	.63200	.05011
.280	6.400	.39170	.08720	.01720	.39900	.04301	-.00210	.00080	.00500	.63500	.04783
.280	8.520	.48780	.10230	.01820	.49730	.02893	-.00240	.00040	.00700	.63670	.04551
.280	10.620	.58700	.12140	.01890	.59930	.01106	-.00240	.00040	.00700	.63910	.04619
.280	12.730	.68930	.14850	.01530	.70510	-.00709	-.00270	.00030	.00700	.64100	.04690
.280	14.830	.79780	.18490	.01260	.81850	-.02357	-.00310	.00110	.00800	.64400	.04714
.280	16.970	.91780	.23540	.00740	.94640	-.04282	-.00300	.00110	.00800	.64600	.04810
.280	19.090	1.01820	.31330	.00000	1.06280	-.03625	-.01310	-.01650	.03000	.64900	.05183
.280	21.230	1.11800	.38600	.00000	1.18000	-.04437	-.01250	-.00380	.02800	.64900	.05583
.280	23.400	1.21820	.47830	-.00600	1.30610	-.04416	-.00750	-.00540	.02100	.65200	.06130
.280	25.490	1.30680	.58610	-.00340	1.42410	-.04971	-.00500	-.00700	.01700	.65100	.06807
.280	GRADIENT	.04587	.00200	.00106	.04692	.00007	-.00003	.00000	.00005	.01590	-.00044

TABULATED SOURCE DATA NAAL-705 0421A  
0421 B17C7M12M4F5 W10Y23V7R6X9

DATE 02 OCT 73

REFERENCE DATA  
 9007 = 4.4119 90.00 FT. 1000P = 43.5974 INCHES  
 1007 = 19.2599 INCHES 1000P = .0000 INCHES  
 2007 = 37.9359 INCHES 2000P = 16.2000 INCHES  
 SCALE = .0005 SCALE

PARAMETRIC DATA

BETA = .000  
 ELEVON = .000  
 VTLINC = .000  
 SPDRK = .000  
 800LAP = -16.000  
 AILRON = .000  
 RUDDER = .000  
 CANARD = .000

RUN NO. 142/ 0 RWL = 1.17 GRADIENT INTERVAL = -5.00/ 3.00

WACH	ALPHA	CL	CDP	CLM	ON	CAF	CYN	COL	CY	XCP/L	CAB
.160	-4.170	-.20040	.06420	.06420	-.29250	.04311	-.00190	.00010	.00500	.75000	.04609
.160	-2.110	-.18000	.05510	.06990	-.18990	.04821	-.00210	.00000	.00500	.76500	.04621
.160	-.050	-.09470	.05050	.07450	-.09480	.09047	-.00200	.00010	.00400	.93600	.04469
.160	1.900	-.00260	.04900	.06000	-.00090	.04907	-.00210	.00000	.00400	-32.64700	.04349
.160	4.040	.09250	.05130	.08770	.09590	.04473	-.00220	.00000	.00400	.31300	.04236
.160	6.100	.19290	.05670	.09800	.19790	.03566	-.00230	-.00010	.00400	.47100	.04234
.160	8.180	.29010	.06650	.10330	.29660	.02454	-.00250	-.00020	.00400	.51900	.04202
.160	10.250	.38660	.06960	.11490	.39470	.01051	-.00270	-.00020	.00600	.54200	.04140
.160	12.320	.48670	.09910	.12150	.49680	-.00703	-.00300	-.00030	.00700	.55900	.04316
.160	14.390	.58940	.12700	.12550	.60250	-.02348	-.00260	.00000	.00600	.37500	.04346
.160	16.430	.69350	.16000	.12990	.71050	-.04271	-.00290	.00090	.00700	.58300	.04704
.160	18.520	.79800	.21680	.13340	.82620	-.04596	-.00930	-.00190	.02000	.59100	.04799
.160	20.610	.89340	.27410	.14060	.93270	-.05789	-.01100	-.00330	.02300	.59400	.04929
.160	22.660	.97640	.33560	.14870	1.03030	-.06650	-.01090	-.00060	.02100	.59600	.04612
.160	24.750	1.03840	.40250	.16120	1.11160	-.06697	-.00930	-.00310	.02000	.59600	.05062
GRADIENT		.04618	-.00156	.01278	.04707	.00020	-.00003	-.00001	-.00015	-1.66346	-.00049

(RDP143) ( 09 JUL 73 )

0421 817C7H13M4F5 W10YE23V7R6X9

PARAMETRIC DATA

REFERENCE DATA

BREF = 4.4119 36.FT. XMRP = 43.9974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9399 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = .000

RUN NO. 143/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.180	-4.140	-.28950	.06590	-.29350	.04478	-.00200	.00030	.00600	.71400	.04516
.180	-2.100	-.19100	.05670	-.19300	.04965	-.00210	.00010	.00500	.77000	.04516
.180	-.340	-.09400	.05150	-.09410	.05152	-.00220	.00020	.00500	.94900	.04498
.180	2.020	.00020	.04920	.00190	.04917	-.00220	.00010	.00400	-16.35800	.04387
.180	4.090	.09810	.05270	.10170	.04559	-.00240	.00010	.00500	.27100	.04254
.180	6.130	.19620	.05620	.20150	.03696	-.00250	.00000	.00500	.43200	.04203
.180	8.220	.29320	.07040	.30230	.02751	-.00270	-.00020	.00500	.48800	.04060
.180	10.280	.39480	.08590	.40360	.01402	-.00290	.00000	.00500	.51600	.03963
.180	12.350	.49360	.10650	.50710	-.00207	-.00330	.00000	.00700	.53400	.04023
.180	14.430	.59410	.13310	.60650	-.01918	-.00320	.00040	.00700	.54700	.04181
.180	16.430	.69780	.16940	.71700	-.03544	-.00350	.00120	.00700	.56000	.04259
.180	18.570	.80460	.22820	.83540	-.03984	-.00490	.00260	.01500	.57300	.04506
.180	20.640	.89440	.28340	.93690	-.05004	-.01110	-.00070	.02100	.57800	.04677
.180	22.700	.97820	.34510	1.03560	-.05918	-.01070	.00050	.01900	.58500	.04625
.180	24.750	1.03350	.40950	1.11000	-.06088	-.00880	-.00360	.02100	.58600	.05110
GRADIENT		.04696	-.00163	.04788	.00005	-.00004	-.00002	-.00015	-.67373	-.00032

DATE 02 OCT 73

TABULATED SOURCE DATA MAIL-705 0421A

PAGE 97

(RDP144) ( 09 JUL 73 )

C421 B17C7 M8 M1F5 M10T2SVTR0X9

REFERENCE DATA

SREF = 4.4119 58. FT.    ZREF = 43.5974 INCHES  
 LREF = 19.2599 INCHES    YREF = .0000 INCHES  
 BREF = 37.9399 INCHES    ZREF = 16.2000 INCHES  
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000    BOFLAP = -18.000  
 ELEVON = .000    AILRON = .000  
 VTINC = .000    RUDDER = .000  
 SPOBRK = 35.000    CANARD = .000

RUN NO. 144/ 0    RV/L = 1.17    GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.160	-4.160	-.29400	.06390	.07100	-.28790	.04316	-.05200	-.00010	.00600	.74000	.04608
.160	-2.100	-.18610	.05310	.07220	-.19000	.04823	-.00220	.00010	.00600	.76900	.04552
.160	-.060	-.09500	.05110	.07350	-.09310	.05105	-.00220	.00010	.00600	.93400	.04355
.160	2.000	-.00100	.04760	.07560	.00060	.04789	-.00210	.00010	.00500	24.24900	.04467
.160	4.070	.09300	.04940	.07640	.09620	.04274	-.00220	.00000	.00500	.35000	.04426
.160	6.110	.18750	.05360	.08120	.19240	.03550	-.00230	.00000	.00500	.49400	.04176
.160	8.190	.28460	.06530	.08350	.29110	.02432	-.00230	.00000	.00500	.54400	.04062
.160	10.230	.36070	.07660	.08470	.36830	.00760	-.00230	-.00030	.00600	.56900	.04263
.160	12.310	.47930	.09550	.08640	.46870	-.00892	-.00300	-.00020	.00700	.56400	.04367
.160	14.370	.58570	.12400	.08510	.59820	-.02327	-.00300	.00010	.00800	.59700	.04464
.160	16.440	.68760	.16220	.07970	.71900	-.04192	-.00340	.00030	.01100	.60600	.04527
.160	18.510	.81010	.22620	.06930	.84000	-.04275	-.01060	-.00350	.02200	.61900	.04856
.160	20.580	.91510	.26580	.06400	.95720	-.03408	-.01250	-.00410	.02800	.62500	.05099
.160	22.660	.99990	.34970	.06460	1.05740	-.06251	-.01170	-.00290	.02700	.62700	.05217
.160	24.720	1.07560	.42260	.06410	1.15210	-.06501	-.00810	-.00270	.02200	.62900	.05348
GRADIENT		.04577	-.00176	.00069	.04663	-.00006	-.00001	-.00001	-.00015	1.09966	-.00022

## TABULATED SOURCE DATA NAL-705 0A21A

(ZDP145) ( 28 AUG 73 )

0A21 B17C7 M9 M4F5 W107E23V7R6X9

## REFERENCE DATA

MACH = 4.4119 58. FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 145/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

## PARAMETRIC DATA

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.160	-4.180	-2.8630	.06370	.06750	-.29020	.04276	-.00200	.00010	.00500	.73500	.04592
.160	-2.060	-1.8940	.05360	.07050	-.19120	.04684	-.00230	.00000	.00600	.78500	.04562
.160	-.090	-.09250	.04930	.07290	-.09260	.04927	-.00230	.00000	.00500	.93900	.04536
.160	2.000	-.00120	.04930	.07790	.00140	.04929	-.00220	.00010	.00400	-16.86300	.04356
.160	4.090	.09420	.05110	.08280	.09750	.04438	-.00230	.00000	.00500	.33700	.04288
.160	6.110	.19010	.05620	.08750	.19500	.03570	-.00240	.00000	.00400	.48400	.04230
.160	8.180	.28720	.06620	.09310	.29370	.02464	-.00250	.00000	.00500	.53300	.04105
.160	10.240	.38090	.07960	.09710	.38900	.01059	-.00270	.00030	.00500	.55700	.04068
.160	12.340	.48360	.09940	.09970	.49370	-.00624	-.00290	.00010	.00700	.57500	.04208
.160	14.380	.58460	.12720	.09980	.59790	-.02196	-.00340	.00010	.00800	.58800	.04282
.160	16.450	.69380	.16360	.09590	.71170	-.03949	-.00330	.00060	.00800	.60000	.04400
.160	18.580	.80160	.22520	.08990	.83160	-.04170	-.01080	.00310	.02100	.61000	.04768
.160	20.590	.89830	.28260	.08760	.94030	-.05143	-.01260	.00330	.02400	.61900	.04848
.160	22.680	.97620	.34330	.09330	1.03310	-.05936	-.01220	.00340	.02500	.61600	.05145
.160	24.700	1.03420	.41120	.09870	1.11140	-.05867	-.00800	.00420	.02300	.61700	.05493
GRADIENT		.04640	-.00144	.50186	.04726	.00028	-.00002	.00000	-.00010	-.99631	-.00040

0A21 B17C7M16M4F5 W107E23V7R6X9

(ZDP146) ( 09 JUL 73 )

## REFERENCE DATA

MACH = 4.4119 58. FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

RUN NO. 146/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

## PARAMETRIC DATA

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.160	-4.170	-2.8630	.06370	.05810	-.29250	.04459	-.00190	.00010	.00500	.72500	.04587
.160	-2.110	-1.8960	.05630	.06870	-.19080	.04935	-.00200	.00010	.00500	.77000	.04486
.160	-.090	-.09210	.05180	.07500	-.09220	.05172	-.00220	.00000	.00500	.94900	.04410
.160	2.010	.00220	.04960	.08480	.00390	.04958	-.00220	.00000	.00500	-7.21300	.04404
.160	4.080	.09880	.05150	.09540	.10220	.04437	-.00220	.00000	.00500	.31600	.04384
.160	6.130	.19680	.06090	.10890	.20410	.03930	-.00220	.00010	.00500	.45500	.04113
.160	8.190	.29710	.07210	.12450	.30440	.02911	-.00220	.00030	.00500	.49900	.04113
.160	10.240	.39310	.08690	.13690	.40270	.01764	-.00220	.00020	.00500	.52200	.03927
.160	12.330	.49610	.11050	.15540	.51020	.00165	-.00240	.00030	.00700	.53700	.04048
.160	14.400	.59790	.13960	.17090	.61390	-.01353	-.00200	.00020	.00800	.54700	.04006
.160	16.480	.69960	.17370	.18390	.72020	-.03192	-.00160	.00000	.00800	.55300	.04265
GRADIENT		.04692	-.00171	.00454	.04782	-.00001	-.00004	.00001	.00000	-.42946	-.00022

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 0A21A

PAGE 99

0A21 817C7N18M4F5 W107E23V7R8X9

(RDP147) ( 09 JUL 73 )

## REFERENCE DATA

REF = 4.4119 56. FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000  
 ELEVON = .000 ALLRON = .000  
 VTILINC = .000 RUDDER = .000  
 SPORRK = 55.000 CANARD = .000

RUN NO. 147/ 0 RW/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.100	-4.180	-.28690	.06450	.06410	-.29090	.04355	-.07210	.00010	.06500	.73100	.04602
.100	-2.100	-.16830	.05550	.06930	-.19020	.04656	-.00200	.00010	.00500	.76400	.04585
.100	-.040	-.09460	.05050	.07570	-.09480	.03045	-.00200	.00000	.00500	.93600	.04477
.100	2.010	.00040	.04840	.07920	.00210	.04837	-.00210	.00010	.00600	-12.68800	.04475
.100	4.060	.09410	.05230	.06650	.09750	.04553	-.00210	.00000	.00500	.32300	.04193
.100	6.140	.19230	.09750	.09490	.19740	.03666	-.00230	-.00010	.00500	.47210	.04236
.100	8.180	.23990	.06870	.10490	.29670	.01456	-.00250	-.00020	.00500	.51900	.04142
.100	10.260	.36900	.08320	.11530	.39800	.01456	-.00270	-.00030	.00600	.54310	.03973
.100	12.320	.49730	.10490	.12430	.49840	-.00146	-.00320	-.00010	.00700	.55710	.04085
.100	14.360	.59400	.13250	.13180	.60830	-.01921	-.00330	.00030	.00800	.57100	.04346
.100	16.430	.70070	.16620	.13800	.71970	-.03712	-.00360	.00110	.0091	.57900	.04556
.100	18.560	.80270	.22300	.14430	.83190	-.04413	-.00920	.00020	.01800	.56500	.04766
.100	20.610	.88560	.27710	.15530	.92650	-.05242	-.01100	.00010	.01800	.56800	.04642
.100	22.660	.96130	.33370	.16870	1.01470	-.06202	-.01150	.00070	.02000	.56800	.04673
.100	24.730	1.02830	.39640	.18450	1.10000	-.07036	-.01150	-.00270	.02500	.56800	.05053
GRADIENT		.04626	-.00113	.00266	.04716	.00018	-.00000	-.00001	.00005	-.69553	-.00045

DATE 02 OCT 73

(RDP148) ( 09 JUL 73 )

QAZ1 817C7M17M4F5 M07E23V7R6X9

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = .000

REFERENCE DATA

WREF = 4.4119 36. FT. WARP = 43.5974 INCHES  
LREF = 19.2599 INCHES YARP = .0000 INCHES  
BREF = 37.9559 INCHES ZARP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 148/ 0 RN/L = 1.17 GRADIENT INTERVAL = .100/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CO	CY	XCF/L	CAB
.160	-2.177	-.29730	.06700	.03170	-.30140	.04521	-.00150	.00020	.00700	.68800	.04807
.160	-2.090	-.19130	.05790	.03510	-.19330	.05092	-.00200	.00010	.00500	.75400	.04526
.160	-.050	-.09050	.05170	.07890	-.09050	.05165	-.00210	.00010	.00500	.97000	.04580
.160	2.020	.00730	.05050	.10520	.00910	.05064	-.00230	.00020	.00500	-3.57200	.04435
.160	4.070	.10630	.05550	.13080	.11000	.04785	-.00240	.00020	.00500	.21200	.04740
.160	6.180	.21100	.06380	.15690	.21660	.04081	-.00250	-.00010	.00600	.36300	.04257
.160	8.230	.31320	.08010	.18300	.32150	.03447	-.00260	-.00020	.00600	.44000	.03948
.160	10.310	.42160	.09780	.20780	.43230	.02074	-.00300	-.00010	.00700	.47200	.04120
.160	12.390	.52770	.12370	.23040	.54190	.00751	-.00350	.00000	.00900	.49300	.04102
.160	14.470	.63480	.15500	.25060	.65340	-.00846	-.00360	.00050	.00800	.50800	.04271
.160	16.550	.74100	.19410	.26820	.76560	-.02503	-.00380	.00090	.01000	.52100	.04371
.160	18.610	.84870	.24900	.27780	.88380	-.03487	-.00670	.00120	.01400	.53400	.04660
.160	20.670	.93760	.30730	.27850	.99580	-.04351	-.00770	.00140	.01500	.54500	.04999
.160	22.730	1.02380	.37360	.29450	1.08860	-.05148	-.00870	.00200	.01700	.55000	.05240
.160	24.820	1.09740	.44750	.31930	1.18790	-.05464	-.01040	-.00080	.02000	.55000	.05622
GRADIENT		.04885	-.00146	.01206	.04979	.00024	-.00006	-.00001	-.00019	-.25681	-.00038





DATE 02 OCT 75

TABULATED SOURCE DATA NAME-T03 UN21A

PAGE 101

QAC1 BITCT MAPS W0TEZSVTR625

(RDF149) ( 09 JUL 75 )

REFERENCE DATA

SHEP = 4.4119 36.17. XHP = 43.52/4 INCHES  
LRC = 19.2291 INCHES YHP = .0000 INCHES  
SHEP = 37.9399 INCHES ZHP = 16.2000 INCHES  
SCALE = .0435 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -19.000  
ELEVON = .000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 55.000

RUN NO. 149/ 0 RNL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MAPN	ALPHA	CL	CLP	CLM	ON	CAF	CYN	CBL	CY	KCP/L	CAB
.160	-4.140	-.29040	.06100	.07340	-.08410	.04059	-.00210	.00020	.00500	.74400	.04723
.160	-2.100	-.18575	.05360	.07220	-.18710	.04692	-.00210	.00020	.00400	.79100	.04562
.160	-.040	-.08320	.04920	.07290	-.09350	.14922	-.00200	.00020	.00500	.93700	.04478
.160	2.020	.00195	.04720	.07220	.00350	.04713	-.00210	.00000	.00400	-6.76100	.04456
.160	4.070	.09570	.04900	.07250	.09900	.04213	-.00230	.00000	.00400	.36000	.04355
.160	6.140	.16710	.05410	.07360	.19180	.03383	-.00220	.00000	.00400	.50400	.04093
.160	8.220	.26430	.06290	.07490	.29130	.02107	-.00230	-.00030	.00500	.55500	.04095
.160	10.290	.36120	.07560	.07590	.39060	.00873	-.00260	-.00050	.00500	.57800	.04046
.160	12.330	.46120	.08440	.07620	.49030	-.01055	-.00320	-.00050	.00700	.59200	.04126
.160	14.340	.56330	.12070	.07680	.59500	-.02791	-.00340	-.00030	.00900	.60400	.04244
.160	16.440	.69690	.19050	.06960	.71230	-.04711	-.00360	.00070	.00800	.61400	.04467
.160	18.320	.80140	.22100	.05890	.83010	-.04912	-.01120	-.00430	.02200	.62300	.04656
.160	20.610	.90620	.26410	.05190	.93000	-.05765	-.01240	-.00530	.02500	.62900	.04618
.160	22.670	1.00390	.34730	.05070	1.06020	-.06652	-.01260	-.00470	.02900	.63200	.05324
.160	24.730	1.06100	.42460	.04710	1.19950	-.06676	-.00400	-.00500	.02100	.63400	.05611
GRADIENT		.04575	-.00148	-.00009	.04656	.00016	-.00002	-.00003	-.00010	-.40384	-.00041

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-705 OAZ1A  
OAZ1 B17C7H17M4P5 W107E23V7M819

(RDP150) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 56.FT. XMRP = 43.9974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.8700 INCHES  
 SCALE = .0405 SCALE

BETA = .0000 BOFLAP = -18.0000  
 ELEVON = 10.0000 ALLRON = .0000  
 VTLINC = .0000 RUDDER = .0000  
 SPOBRK = 55.0000 CANARD = .0000

## PARAMETRIC DATA

RUN NO. 190/ 0 RNVL = 1.17 GRADIENT INTERVAL = -5.00V 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAS
.100	-4.070	-.10120	.05950	-.05420	-.10520	.05223	-.00130	.00100	.00400	.46000	.05334
.100	-2.010	.00150	.05660	-.02940	-.00040	.05690	-.00150	.00090	.00300	-22.46500	.05245
.100	.090	.09690	.05660	-.02940	.05900	.05666	-.00140	.00100	.00400	.67300	.05130
.100	2.120	.19720	.06250	.01910	.19940	.05316	-.00170	.00090	.00400	.61400	.05060
.100	4.160	.27700	.07170	.04430	.30430	.04962	-.00160	.00070	.00400	.59600	.05073
.100	6.290	.40410	.08660	.07010	.41110	.04226	-.00210	.00030	.00400	.58700	.05036
.100	8.310	.50610	.10690	.09320	.51660	.03455	-.00240	.00030	.00500	.56200	.04697
.100	10.410	.60920	.13540	.12270	.62360	.02307	-.00260	.00070	.00700	.57700	.04514
.100	12.470	.70960	.16750	.14490	.72840	.01034	-.00310	.00110	.00800	.57700	.04397
.100	14.560	.81480	.20270	.16570	.83960	-.00856	-.00320	.00120	.00900	.57700	.04673
.100	16.630	.92400	.24620	.18290	.95660	-.02663	-.00340	.00160	.00900	.57900	.04639
.100	18.700	1.02930	.31140	.18640	1.07460	-.03510	-.00420	.00160	.01100	.56500	.04959
.100	20.760	1.10750	.37630	.19470	1.16970	-.04074	-.007910	.00160	.01400	.56800	.05267
.100	22.630	1.18710	.44660	.21600	1.26610	-.04732	-.00990	.00230	.01600	.56600	.05662
.100	24.990	1.22990	.52410	.24420	1.35630	-.04221	-.00970	-.00120	.01900	.56200	.05742
.100			.00146	.01150	.04336	-.00203	-.00006	-.00003	.00035	1.13779	-.00035

GRADIENT



DATE 08 OCT 75 TABULATED SOURCE DATA NAAL-705 0421A

RD0191) ( 09 JUL 75 )

0421 817C7H18M4P5 W07023V7R819

## REFERENCE DATA

SRCP = 4.4119 98.17. XMRP = 43.9974 INCHES  
LWRF = 19.2799 INCHES YMRP = .0000 INCHES  
BRCP = 37.9356 INCHES ZMRP = 16.2000 INCHES  
SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOP/LAP = -18.000  
ELEVON = 10.000 AILRON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 59.000 CANARD = .000

RUN NO. 191/ 0 RW/L = 1.17 GRADIENT INTERVAL = -3.00/ 3.00

WACH	ALPHA	CL	CDP	CLM	CN	CAP	CYN	CBL	CV	XCP/L	CAB
.180	-4.080	-.09310	.05690	-.02800	-.09690	.09016	-.00180	.00060	.00200	.59000	.05367
.180	-2.160	-.00250	.05420	-.02090	-.00450	.05416	-.00150	.00090	.00300	-1.03400	.05272
.180	.030	.09550	.05320	-.01640	.09530	.05316	-.00180	.00090	.00300	.71300	.05216
.180	2.110	.19210	.05660	-.01100	.19410	.05171	-.00150	.00090	.00300	.67000	.05121
.180	4.150	.29700	.06720	-.00370	.29110	.04827	-.00190	.00060	.00400	.65400	.05006
.180	6.230	.36180	.07940	.00490	.36900	.03752	-.00190	.00060	.00300	.64300	.04890
.180	8.280	.48010	.09060	.01820	.48900	.02641	-.00230	.00030	.00400	.63600	.04774
.180	10.340	.57430	.11640	.02710	.59620	.01339	-.00250	.00030	.00300	.63200	.04616
.180	12.420	.67690	.14640	.03540	.69250	-.00267	-.00250	.00090	.00300	.63100	.04620
.180	14.470	.77770	.17990	.04230	.79670	-.02015	-.00300	.00100	.00700	.63000	.04794
.180	16.550	.86030	.22350	.05090	.90750	-.03660	-.00350	.00800	.00600	.62900	.04664
.180	18.670	.97750	.26250	.05970	1.01630	-.04537	-.00640	.00180	.01600	.62600	.04910
.180	20.700	1.05480	.34520	.07180	1.10660	-.05007	-.01190	-.00150	.02200	.62500	.04999
.180	22.740	1.11960	.40690	.06680	1.15000	-.05775	-.01240	-.00060	.02400	.62200	.05064
.180	24.800	1.16730	.46190	.10660	1.26160	-.05213	-.01000	-.00730	.02600	.61800	.05400
GRADIENT		.04005	.00122	.00263	.04701	-.00030	-.00007	-.00002	.00019	.09592	-.00044

(BDF152) ( 09 JUL 73 )

0421 817C7 H9 HAPS M107E21V7R809

PARAMETRIC DATA

REFERENCE DATA

BETA = .000 BOPLAP = -16.000  
ELEVON = 10.000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRNK = 55.000 CANARD = .000

SRCP = 4.4119 SQ.FT. WARP = 43.9974 INCHES  
LWCP = 19.2299 INCHES WARP = .0000 INCHES  
BWCP = 37.9339 INCHES WARP = 16.2000 INCHES  
SCALE = .0405 SCALE

RUN NO. 132/ 0 RNVL = 1.17 GRADIENT INTERVAL = -9.00/ 9.00

WACH	ALPHA	CL	CDP	CLM	CN	CAP	CYN	CBL	CY	XCP/L	CAB
.160	-4.050	-.06970	.05560	-.02400	-.09340	.04915	-.00140	.00100	.00400	.55900	.05349
.160	-1.990	.00450	.05370	-.01970	.00260	.03391	-.00140	.00090	.00400	3.59000	.03249
.160	.060	.09620	.05430	-.01630	.09620	.05425	-.00140	.00090	.00400	.71000	.03191
.160	2.120	.19270	.05640	-.01300	.19470	.05126	-.00160	.00060	.00400	.67400	.03142
.160	4.130	.26710	.06720	-.00990	.29120	.04626	-.00170	.00070	.00500	.66100	.04961
.160	6.220	.36170	.07730	-.00340	.36760	.03546	-.00160	.00070	.00400	.63300	.04917
.160	8.290	.47310	.08400	.00200	.46370	.02455	-.00230	.00040	.00500	.64900	.04716
.160	10.340	.57010	.11330	.00660	.56120	.00913	-.00240	.00100	.00600	.64400	.04763
.160	12.420	.66910	.14000	.00940	.66360	-.00715	-.00260	.00130	.00600	.64500	.04756
.160	14.480	.77060	.17490	.00960	.76990	-.02336	-.00290	.00160	.00600	.64600	.04976
.160	16.590	.86120	.21070	.00370	.80700	-.04131	-.01260	.00260	.00600	.65000	.05239
.160	18.640	.94460	.26960	-.00200	1.02560	-.04033	-.01260	-.00260	.00600	.65000	.05350
.160	20.690	1.07150	.35400	-.00100	1.12750	-.04736	-.01260	-.00560	.00600	.64800	.05625
.160	22.730	1.11750	.42340	.00920	1.19420	-.04130	-.01920	-.00560	.00600	.64300	.06139
.160	24.780	1.16050	.49140	.00260	1.26760	-.04417	-.00370	-.00560	.00600	.64300	.06139
GRADIENT		.04592	.00136	.00160	.34667	-.00041	-.00004	-.00103	.00010	-.11962	-.00143

DATE 02 OCT 75

TABULATED SOURCE DATA: NAL-703 CAS1A

080P193) ( 09 JUL 75 )

PARAMETRIC DATA

BETA = .000  
ELEVON = 10.000  
VTLINC = .000  
SPDRK = 55.000

REF = 4.4115 26.17.  
LREF = 19.2299 INCHES  
B.27 = 37.9359 INCHES  
SCALE = .0405 SCALE

RUN NO. 193/ 0 RUL = 1.17 GRADIENT INTERVAL = -.5.00/ 5.00

ALPHA	CL	CLM	CLN	CAP	CYN	CBL	CY	KCP/L	CAB
.180	-.0000	-.0000	-.0000	.05012	-.00130	.00070	.00300	.56000	.05343
.180	.00370	-.01780	.00180	.05376	-.00140	.01080	.00300	4.22300	.03236
.180	.00710	-.01770	.00710	.05369	-.00140	.00060	.00400	.71700	.03272
.180	.00780	-.01600	.18970	.05217	-.00150	.00070	.00300	.60000	.05051
.180	.00990	-.01310	.28830	.04904	-.00170	.00080	.00400	.66000	.04922
.180	.00990	-.00360	.36360	.05353	-.00180	.00050	.00400	.65000	.04693
.180	.00730	-.00740	.48000	.05361	-.00200	.00050	.00400	.65000	.04723
.180	.00710	-.00460	.57770	.00944	-.00250	.00040	.00400	.65000	.04713
.180	.00710	-.00360	.60070	-.00778	-.00240	.00080	.00400	.65000	.04726
.180	.00710	-.00360	.79170	-.00250	-.00250	.00060	.00400	.65000	.04918
.180	.00710	-.00360	.90540	-.00250	-.00250	.00060	.00400	.65000	.04918
.180	.00710	-.00210	1.02990	-.04299	-.01230	.00170	.00600	.65000	.05209
.180	.00710	-.00210	1.13710	-.04934	-.01410	.00170	.00600	.65000	.05620
.180	.00710	-.00210	1.22450	-.04754	-.00630	.00170	.00600	.65000	.05603
.180	.00710	-.00210	1.30360	-.04929	-.00780	.00170	.00600	.65000	.06132
.180	.00710	-.00210	1.4611	-.00057	-.00004	.00002	.00010	-.12166	-.00050

GRADIENT

(NDP154) ( 09 JUL 73 )

0A21 B17C7H13M4F5 M10TEZSV7R6N9

## REFERENCE DATA

REF = 4.4119 98.17. 100P = 43.5974 INCHES  
 LREF = 19.2299 INCHES TREF = .0000 INCHES  
 REF = 37.9399 INCHES ZREF = 16.8000 INCHES  
 SCALE = .0005 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
 ELEVON = 10.070 AILSON = .000  
 VTLINC = .000 RUDDER = .000  
 SPDRK = 55.000 CANARD = .000

RUN NO. 154/ 0 RVL = 1.17 GRADIENT INTERVAL = -9.00/ 5.00

WACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CR	CY	XCP/L	CAB
.160	-1.000	-.09250	.05680	-.03610	-.09980	.04999	-.00130	.00060	.00400	.50800	.03356
.160	-2.000	.00040	.05320	-.02320	.00040	.04531	-.00130	.00090	.00400	20.80900	.03225
.160	.040	.00010	.05330	-.01290	.00620	.05325	-.00150	.00090	.00400	.09920	.03226
.160	2.110	.10090	.05990	.00010	.16300	.03275	-.00160	.00090	.00300	.64900	.03047
.160	4.100	.29120	.06810	.01370	.29240	.04682	-.00170	.00060	.00400	.63200	.03034
.160	6.250	.30000	.06790	.02790	.30450	.03637	-.00200	.00040	.00400	.62300	.04696
.160	8.310	.40740	.06800	.04470	.40000	.02734	-.00250	.00040	.00300	.61800	.04666
.160	10.350	.57990	.12010	.05910	.59100	.01411	-.00270	.00070	.00300	.61200	.04491
.160	12.430	.67910	.14830	.07120	.68470	-.00337	-.00310	.00100	.00600	.61200	.04543
.160	14.520	.77600	.16000	.08120	.79040	-.00254	-.00310	.00140	.00600	.61200	.04497
.160	16.570	.86040	.22450	.08310	.90960	-.03637	-.00290	.00150	.00700	.61600	.04716
.160	18.600	.90490	.29090	.08630	1.02480	-.04322	-.00290	.00150	.01600	.61800	.04915
.160	20.730	1.00920	.35200	.09780	1.12480	-.04851	-.01110	-.00060	.02100	.61700	.04955
.160	22.780	1.14100	.42350	.10090	1.21560	-.05170	-.00970	-.00170	.02100	.61900	.05340
.160	24.840	1.30050	.49310	.11260	1.27810	-.04830	-.00720	-.00250	.01600	.61700	.05996
.160	26.900	1.47040	.56134	.00869	.04801	-.00344	-.00005	-.00000	-.00025	-.97396	-.00040



REFERENCE DATA

WGT = 4.119 90.LT. WEP = 43.9974 INCHES  
LWT = 19.2299 INCHES WEP = .0000 INCHES  
WGT = 37.9399 INCHES WEP = 16.2000 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
ELEVON = 10.000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = .000

RUN NO. 155/ 0 NAAL = 1.17 GRADIENT INTERVAL = -5.06/ 5.00

NAAL	ALPHA	CL	CDP	CLN	CH	CAP	CYN	CEL	CY	MCP/L	CAB
.100	-4.040	-0.0000	.05000	-.02640	-.00000	.05000	-.00130	.00090	.00000	.54400	.05350
.150	-1.940	.00000	.05370	-.02070	.00000	.05370	-.00160	.00090	.00000	8.39900	.05301
.180	.040	.00760	.05320	-.01990	.00770	.05310	-.00150	.00060	.00000	.70900	.05155
.180	2.100	.19130	.05000	-.01000	.19360	.05163	-.00170	.00060	.00400	.66900	.05121
.180	4.170	.20000	.06710	-.00240	.29300	.04991	-.00180	.00070	.00400	.65200	.04960
.180	6.250	.36370	.07820	.00320	.36990	.03996	-.00190	.00090	.00400	.64400	.04814
.180	8.280	.47980	.08510	.01420	.48350	.02336	-.00210	.00060	.00400	.63900	.04735
.180	10.340	.57760	.11440	.02370	.58900	.00633	-.00240	.00090	.00500	.63400	.04706
.180	12.430	.67140	.14110	.03110	.68610	-.00677	-.00260	.00100	.00600	.63000	.04654
.180	14.510	.77300	.17800	.03540	.79440	-.02376	-.00270	.00110	.00600	.63000	.04602
.180	16.600	.86060	.21680	.04000	.90050	-.04204	-.00290	.00130	.00600	.63000	.04603
.180	18.720	1.00960	.27920	.04600	1.01060	-.04911	-.00300	.00150	.01700	.63000	.05006
.180	20.780	1.13620	.34290	.05610	1.11240	-.05420	-.00310	-.00310	.02700	.62900	.05325
.180	22.780	1.13620	.41310	.06640	1.20730	-.05695	-.00320	-.00290	.02300	.62900	.05557
.180	24.820	1.17280	.48430	.08370	1.28760	-.05268	-.00360	-.00190	.01700	.62900	.05557
.180	.04999	.00126	.00126	.00296	.04696	-.00453	-.00005	-.00002	.00015	-.36477	-.00046

DATE 02 OCT 75

(RDP156) ( 09 JUL 75 )

0421 817C7H184F5 W107E23V7R633

PARAMETRIC DATA

BETA = .000 BOFLAP = -10.000  
ELEVON = 10.000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = .000

REFERENCE DATA

SRCP = 4.4119 SQ.FT. XMRP = 43.9974 INCHES  
LREF = 19.2259 INCHES YMRP = .0000 INCHES  
SRCP = 37.9359 INCHES ZMRP = 16.2500 INCHES  
SCALE = .0405 SCALE

RUN NO. 156/ 0 RWL = 1.17 GRADIENT INTERVAL = -9.00/ 9.00

WACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	COL	CY	KCP/L	CAB
.160	-4.070	-.09540	.03730	-.03270	-.09930	.05042	-.00130	.00100	.00400	.52900	.05479
.160	-2.000	-.00210	.05430	-.02290	.00020	.05443	-.00140	.00090	.00400	31.82400	.05390
.160	.050	.03600	.05900	-.01450	.09600	.05501	-.00160	.00100	.00400	.70200	.05232
.160	2.120	.19320	.05930	-.00440	.19530	.05130	-.00180	.00090	.00400	.85900	.05297
.160	4.120	.28910	.04980	.02630	.29330	.04775	-.00180	.00070	.00400	.64100	.05001
.160	6.240	.36700	.08110	.01970	.34350	.03955	-.00200	.00040	.00500	.63100	.04942
.160	8.310	.48600	.09680	.03450	.49510	.02739	-.00250	.00040	.00400	.62400	.04864
.160	10.380	.57940	.12530	.05230	.59210	.01708	-.00270	.00060	.00600	.61700	.04485
.160	12.440	.68180	.14990	.06790	.69790	-.00049	-.00300	.00060	.00700	.61400	.04636
.160	14.510	.78120	.18440	.08230	.80250	-.01713	-.00280	.00120	.00700	.61200	.04569
.160	16.590	.88580	.22780	.09370	.91370	-.03485	-.00290	.00220	.00700	.61000	.04661
.160	18.620	.98780	.27810	.10870	1.02460	-.05236	-.00370	.00170	.00900	.60900	.04826
.160	20.740	1.08280	.34880	.12590	1.13600	-.05742	-.01080	.00170	.02100	.60700	.05140
.160	22.780	1.14650	.41070	.14090	1.21800	-.06371	-.01040	.00190	.01800	.60700	.05313
.160	24.880	1.20870	.47990	.16790	1.29840	-.07279	-.02490	.00440	.00500	.60200	.05810
.160		.04670	.00132	.00469	.04768	-.05041	-.00076	-.00003	-.00000	-1.50040	-.03051

GRADIENT



DATE 02 OCT 73

TABULATED SOURCE DATA NUAL-705 0421A

(NDP137) ( 09 JUL 73 )

0421 B17C7W10M75 W10723V7R605

REFERENCE DATA

SRP = 4.4119 26.47. SRP = 43.9974 INCHES  
LRF = 19.2299 INCHES YRP = .0000 INCHES  
SRP = 37.5339 INCHES ZRP = 16.2020 INCHES  
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOPLAP = -19.000  
ELEVON = 10.000 ATLROW = .000  
VTLINE = .000 RUDDER = .000  
SPORER = 55.000 CANARD = .000

RUN NO. 1577 0 NUAL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MMCH	ALPHA	C	CDP	CLM	CN	CAP	CYN	CP	CY	KCP/L	CAB
.100	-4.060	-0.0670	.00970	-0.01630	-0.08230	.04934	-.00110	.00090	.00200	.37800	.03372
.100	-1.990	.00370	.00510	-0.01690	.00190	.03328	-.00130	.00100	.00300	3.87700	.05364
.100	.000	.00430	.00440	-0.01730	.00450	.05442	-.00150	.00100	.00400	.71700	.05169
.100	2.090	.19070	.05960	-0.01720	.19270	.05127	-.00160	.00060	.00400	.66200	.03122
.100	4.130	.29320	.06810	-0.01570	.29730	.04594	-.00170	.00070	.00400	.67100	.04846
.100	6.200	.37770	.07670	-0.01390	.39390	.03549	-.00190	.00040	.00500	.66300	.04676
.100	8.250	.47020	.08080	-0.01160	.47670	.02426	-.00210	.00040	.00500	.65600	.04596
.100	10.330	.56700	.11100	-0.00960	.57770	.00759	-.00230	.00030	.00600	.65000	.04742
.100	12.390	.66000	.13770	-0.01100	.66010	-.00644	-.00260	.00070	.00500	.65900	.04774
.100	14.430	.77490	.17240	-0.01650	.79350	-.02639	-.00270	.00120	.00600	.65700	.09036
.100	16.530	.89720	.21660	-0.02270	.91220	-.04471	-.00330	.00160	.00800	.65900	.05166
.100	18.610	.96110	.28740	-0.03050	1.03100	-.04392	-.01250	-.00330	.00800	.66300	.05253
.100	20.660	1.07740	.35040	-0.02670	1.13170	-.03237	-.01430	-.00470	.03100	.65900	.05410
.100	22.750	1.19940	.42980	-0.02870	1.23540	-.05199	-.00940	-.00300	.02200	.65600	.05453
.100	24.870	1.22940	.50340	-0.02540	1.32630	-.05632	-.00760	-.00410	.02100	.65600	.06374
GRADIENT		.04549	.30126	.00024	.04645	-.00047	-.00007	-.00003	.00024	-.14573	-.00093

(R0P150) ( 99 JUL 73 )

0A21 B17C7M11MAF5 W107E23V7R039

## REFERENCE DATA

SHIP = 4.4119 50.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 SHIP = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -10.000  
 ELEVON = 10.000 ALLCON = .000  
 VTLINC = .000 RUDDER = .000  
 SPOBRK = 55.000 CANARD = .000

RUN NO. 150/ 0 RAVL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	KCP/L	CAB
.100	-4.070	-.09160	.05560	-.01930	-.09530	.04916	-.00140	.00090	.00300	.57500	.05406
.100	-2.000	.00250	.03240	-.01860	.00070	.05255	-.00150	.00090	.00400	9.84400	.05396
.100	.040	.09200	.05350	-.01770	.09500	.05344	-.00160	.00060	.00400	.71670	.05294
.100	2.090	.19110	.05690	-.01700	.18320	.05193	-.00170	.00070	.00400	.66270	.05060
.100	4.140	.28300	.06350	-.01440	.28700	.04486	-.00120	.00060	.00400	.66600	.05048
.100	6.250	.36110	.07640	-.01130	.36720	.03463	-.00270	.00040	.00500	.66000	.04951
.100	8.310	.47130	.08230	-.00850	.47970	.02322	-.00250	.00060	.00400	.65670	.04712
.100	10.330	.56720	.11200	-.00420	.57610	.00846	-.00250	.00040	.00600	.65270	.04755
.100	12.430	.66720	.15970	-.00420	.68160	-.00717	-.00250	.00090	.00500	.65200	.04669
.100	14.450	.77130	.17270	-.00660	.79000	-.02531	-.00250	.00140	.00500	.65300	.04955
.100	16.550	.88040	.21670	-.01270	.90660	-.04366	-.00280	.00160	.00700	.65500	.05105
.100	18.610	.96410	.28700	-.02060	1.02420	-.04202	-.01220	-.00290	.02500	.65700	.05355
.100	20.670	1.07010	.35490	-.02000	1.12630	-.04573	-.01450	-.00360	.02900	.65600	.05465
.100	22.730	1.13780	.42640	-.01480	1.21420	-.04651	-.01030	-.00270	.02300	.65470	.05635
.100	24.770	1.19050	.49590	-.00700	1.27570	-.04853	-.00730	-.00410	.02100	.65100	.06314
.100	GRADIENT	.01572	.00126	.00053	.04666	-.00045	-.00005	-.00002	.00010	-.43522	-.00051

DATE 02 OCT 75

TABULATED SOURCE DATA MAAL-7.5 ONE1A

PAGE 111

0A21 017C7H11M4F5 M10VE13V7R0X9

(RDP159) ( 09 JUL 75 )

## REFERENCE DATA

WREF = 4.4119 98.FT. WREF = 43.9974 INCHES  
LREF = 19.2299 INCHES VREF = .0000 INCHES  
BREF = 37.9359 INCHES ZREF = 16.3000 INCHES  
SCALE = .0005 SCALE

## PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000  
ELEVAN = .000 AILRON = .000  
VTLINC = .000 RUDDER = .000  
SPDRK = 55.000 CANARD = .000

RUN NO. 159/ 0 RWL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.160	-4.170	-.29630	.06400	.07190	-.29040	.04303	-.00210	.00000	.00000	.74000	.04611
.160	-2.110	-.19120	.05430	.07180	-.19310	.04723	-.00220	-.00010	.00500	.76000	.04692
.160	-.040	-.09780	.03030	.07450	-.09780	.09030	-.00220	-.00010	.00500	.92600	.04432
.160	2.000	-.00360	.04810	.17490	-.00210	.04629	-.00230	-.00010	.00500	13.62600	.04447
.160	4.040	.06900	.04980	.07720	.09130	.04352	-.00230	-.00030	.00500	.33600	.04335
.160	6.100	.18430	.05480	.07940	.18900	.03491	-.00230	-.00030	.00400	.49500	.04225
.160	8.180	.29050	.06420	.08280	.29690	.02365	-.00230	-.00040	.00500	.54300	.04109
.160	10.240	.37820	.07780	.08150	.36600	.00829	-.00260	-.00040	.00500	.56800	.04182
.160	12.290	.47810	.09670	.06770	.48770	-.00730	-.00330	-.00030	.00600	.56300	.04236
.160	14.360	.57930	.12590	.06820	.59190	-.02371	-.00340	.00010	.00600	.59600	.04264
.160	16.460	.68240	.16010	.06230	.70940	-.04297	-.00340	.00040	.00900	.60700	.04339
.160	18.490	.79060	.22590	.07420	.82840	-.04104	-.01110	-.00390	.02200	.61600	.04717
.160	20.590	.89860	.26180	.07020	.94050	-.03228	-.01270	-.00440	.02500	.62200	.04973
.160	22.660	.97960	.34290	.07330	1.03610	-.06148	-.01290	-.00330	.02500	.62300	.03245
.160	24.750	1.05610	.41690	.07770	1.13330	-.06362	-.00990	-.00320	.02300	.62600	.03664
	GRADIENT	.04561	-.00169	.00066	.04649	.00010	-.00002	-.00003	-.00010	.56744	-.00039

PARAMETRIC DATA

REFERENCE DATA											
SREF =	4.4119	58.171	YMRP =	43.5974	INCHES	BETA =	.000	BDFLAP =	-18.000		
LREF =	19.2299	INCHES	YMRP =	.0000	INCHES	ELEW =	.000	AILRON =	.000		
BREF =	37.9359	INCHES	ZMRP =	16.2000	INCHES	VTINC =	.000	RUDDER =	.000		
SCALE =	.0405	SCALE				SPDRK =	55.000	CANARD =	.000		
RUN NO. 160/ 0 RVL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00											
MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.160	-4.140	-.28270	.06320	.07210	-.28850	.04260	-.00190	-.00010	.00500	.74200	.04596
.160	-2.090	-.19020	.05420	.07250	-.19210	.04724	-.00210	-.00020	.00600	.78800	.04847
.160	-.040	-.09310	.04950	.07260	-.09510	.04945	-.00230	-.00030	.00500	.93000	.04502
.160	1.990	-.00250	.04750	.07320	-.00060	.04756	-.00250	-.00010	.00500	-25.46100	.04466
.160	4.090	.09060	.04910	.07470	.09390	.04265	-.00210	-.00030	.00500	.35670	.04320
.160	6.130	.18760	.05370	.07670	.19250	.03342	-.00230	-.00040	.00500	.50300	.04282
.160	8.170	.28150	.06170	.07850	.29740	.02106	-.00250	-.00050	.00600	.54900	.04315
.160	10.240	.37950	.07610	.08040	.38700	.00744	-.00260	-.00060	.00800	.57300	.04204
.160	12.320	.48080	.08670	.08070	.49040	-.00781	-.00310	-.00070	.00700	.58900	.04206
.160	14.390	.59010	.12570	.07720	.60290	-.02490	-.00320	-.00010	.00700	.60200	.04303
.160	16.450	.70140	.16160	.07180	.71850	-.04365	-.00380	.00020	.01000	.61300	.04587
.160	18.520	.80440	.22450	.06480	.83410	-.04277	-.01130	-.00420	.02300	.62100	.04591
.160	20.600	.90930	.28150	.06070	.95030	-.05638	-.01280	-.00410	.02700	.62600	.04854
.160	22.660	.99900	.34500	.05890	1.05480	-.06655	-.01230	-.00280	.02600	.62900	.05194
.160	24.730	1.07850	.42020	.05640	1.15540	-.06958	-.00780	-.00360	.02100	.63100	.05622
	GRADIENT		-.00171	.00029	.04654	.00002	-.00001	-.00001	-.00005	-1.31442	-.00036

DATE 02 OCT 73

TABULATED SOURCE DATA NAL-705 0A21A

(RDP161) ( 09 JUL 73 )

0A21 817C7H16H4F5 W107E23V7R6X9

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000  
ELEVON = .000 ATLON = .000  
VTLINE = .000 RUDDER = .000  
SPDRK = 99.000 CANARD = .000

REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES  
LREF = 19.2299 INCHES YMRP = .0000 INCHES  
BREF = 37.9339 INCHES ZMRP = 16.2070 INCHES  
SCALE = .0405 SCALE

RCN NO. 161/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	TDF	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.100	-4.120	-.2660	.16430	.05650	-.29250	.04342	-.00200	-.00110	.00800	.72000	.04612
.100	-2.170	-.10960	.01510	.06550	-.19150	.04611	-.00210	-.00120	.00150	.77500	.04661
.100	-.040	-.09420	.05160	.07460	-.09420	.05083	-.00220	-.00130	.00500	.94100	.04533
.100	2.010	.00000	.04360	.06400	.00160	.04865	-.00220	-.00130	.00500	-17.66000	.04467
.100	4.070	.09620	.05170	.09560	.09970	.04476	-.00230	-.00120	.00400	.29600	.04334
.100	6.140	.19710	.05660	.10920	.20230	.03740	-.00260	-.00130	.00500	.45100	.04261
.100	8.270	.24700	.07070	.12390	.30410	.02767	-.00260	-.00140	.00500	.49900	.04122
.100	10.300	.39510	.08750	.13980	.40440	.0	-.00310	-.00160	.00800	.52200	.03970
.100	12.330	.49950	.10660	.15540	.51120	-.00136	-.00350	-.0010	.00700	.53700	.04104
.100	14.400	.60030	.13700	.17100	.61550	-.01663	-.00320	.00070	.00700	.54700	.04142
.100	16.470	.70650	.17160	.18530	.72620	-.03579	-.00360	.00070	.00700	.55500	.04366
.100	18.570	.81590	.22670	.19450	.84560	-.04496	-.00480	.00070	.01500	.56500	.04666
.100	20.640	.90390	.27930	.20670	.94430	-.05736	-.01040	.00210	.01900	.56800	.04721
.100	22.700	.98720	.33780	.22370	1.04110	-.06937	-.02070	.00170	.01700	.57000	.04777
.100	24.770	1.06530	.40200	.24290	1.13570	-.08144	-.02480	.00200	.01000	.57100	.05140
GRADIENT		.04661	-.00154	.00472	.04770	.00015	-.00070	-.00201	-.00120	-.94086	-.00037

DATE 02 OCT 73

PAGE 114

## TABULATED SOURCE DATA NAAL-703 QM21A

(RDP162) ( 09 JUL 73 )

QAM21 B17C7 H7M4F5 M10TE23V7R6 X9

## PARAMETRIC DATA

## REFERENCE DATA

SREF = 4.4119 90.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 OREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0453 SCALE

BETA =  
 ELEVON =  
 VTLINC =  
 SPDBRK =

BDFLAP = -18.0000  
 AILRON = .0000  
 RUDDER = .0000  
 CANARD = .0000

RUN NO. 162/ 0 RV/L = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	C'N	CBL	CY	XCP/L	CAB
.160	-4.180	-.29040	.06390	.05510	-.29430	.04273	-.00190	.00000	.00350	.71800	.04725
.160	-2.120	-.19560	.05360	.06210	-.19750	.04839	-.00200	-.00020	.00500	.76000	.04627
.160	-.090	-.08660	.04900	.07000	-.09870	.04894	-.00210	-.00020	.00500	.91000	.04700
.160	2.010	-.02220	.04930	.07790	-.00050	.04942	-.00210	-.00030	.00500	-8.31600	.04463
.160	4.040	.09230	.05080	.08720	.09570	.04417	-.00230	-.00020	.00600	.31400	.04416
.160	6.120	.19280	.05380	.09690	.19770	.03500	-.00240	-.00030	.00600	.46900	.04315
.160	8.180	.29120	.06460	.10570	.29740	.02252	-.00270	-.00060	.00600	.51900	.04279
.160	10.250	.39320	.07940	.11460	.40110	.00817	-.00290	-.00060	.00700	.54000	.04169
.160	12.330	.49770	.09840	.12110	.50720	-.01016	-.00350	-.00060	.00700	.56100	.04376
.160	14.400	.61860	.12760	.12700	.62120	-.02778	-.00380	-.00040	.01000	.57400	.04487
.160	16.470	.72390	.16500	.12940	.74090	-.04696	-.00430	.00060	.01000	.58500	.04771
.160	18.550	.83510	.22920	.12610	.86560	-.04874	-.01160	-.00330	.02200	.59000	.05080
.160	20.640	.94840	.29300	.12590	.99180	-.06011	-.01310	-.00420	.02400	.60300	.05343
.160	22.710	1.03430	.36290	.12610	1.11260	-.07244	-.01260	-.00210	.02200	.60800	.05772
.160	24.790	1.16550	.45540	.11900	1.24910	-.07547	-.00740	-.00350	.02000	.61400	.06268
	GRADIENT	.670	-.00158	.00390	.04759	.00019	-.00004	-.00002	.00010	-.48436	-.00038

DATE 02 OCT 73 TABULATED SOURCE DATA NAL-705 QAS1A

(NOV183) (09 JUL 73)

QAS1 B17C7M1 SWMP'S WIDESPHERE 70

PARAMETRIC DATA

BETA = .000  
ELEVON = .000  
VTLINC = .000  
SUBRA = 55.000  
CAMARO = .000

REFERENCE DATA

SRCP = 4.0119 56.177  
LWCP = 19.2299 INCHES  
SRCP = 37.9299 INCHES  
SCALE = .0005 SCALE

RELIN NO. 103/0 RML = 1.17 GRADIENT INTERVAL = -5.00V 5.00

WACH	ALPHA	CL	CLF	CLM	CH	CAP	CYN	CBL	CV	KCP/L	CAB
.100	-4.150	-1.8920	.06370	.04190	-.20000	.04206	-.00170	.00000	.00170	.72000	.0473
.100	-2.100	-1.1000	.05450	.04640	-.10000	.04734	-.00190	-.00000	.00170	.77000	.04600
.100	-.000	-.0000	.05000	.07370	-.00000	.05055	-.00190	-.00000	.00170	.84000	.04944
.100	2.030	.00170	.04000	.00010	.00340	.04000	-.00180	-.00000	.00170	-.7.01000	.04519
.100	4.000	.00000	.05120	.00000	.10000	.04300	-.00210	-.00000	.00170	.55000	.04418
.100	6.130	.00000	.05240	.00000	.10000	.05463	-.00200	-.00000	.00170	.47000	.04302
.100	8.190	.00000	.06010	.10150	.30000	.06234	-.00240	-.00000	.00170	.50000	.04317
.100	10.260	.00000	.07000	.10000	.40000	.07074	-.00340	-.00000	.00170	.59000	.04317
.100	12.330	.00000	.08000	.11000	.50000	.08000	-.00340	-.00000	.00170	.64000	.04222
.100	14.410	.00000	.12770	.12000	.60000	.12000	-.00340	-.00000	.00170	.67000	.04222
.100	16.470	.00000	.16440	.12000	.74000	.16000	-.00340	-.00000	.00170	.77000	.04222
.100	18.500	.00000	.20000	.11000	.80000	.20000	-.00340	-.00000	.00170	.84000	.04222
.100	20.640	.00000	.24000	.11000	.90000	.24000	-.00340	-.00000	.00170	.89000	.04222
.100	22.780	.00000	.30000	.10000	1.00000	.30000	-.00340	-.00000	.00170	.94000	.04222
.100	24.800	.00000	.44000	.11000	1.20000	.44000	-.00340	-.00000	.00170	.99000	.04222
.100	.00000	.00000	.00000	.00000	.00000	.00000	-.00340	-.00000	.00170	.00000	.04222

9

0421 817C7H18W03 MID7C23V7R6 17

18001801 ( 09 JUL 75 )

## REFERENCE DATA

SHOT = 4.4119 50.07. 300P = 23.3974 INCHES  
 LAMP = 19.2299 INCHES VIEW = .0000 INCHES  
 SHOT = 37.9359 INCHES 200P = 16.2000 INCHES  
 SCALE = .0005 SCALE

BCVA = .000  
 CLINOM = .000  
 VLFAC = .000  
 SPDRK = 55.000  
 BOFLAP = -18.000  
 ALLCON = .000  
 RUDDER = .000  
 CMMARO = .000

## PARAMETRIC DATA

PUN NO. 164/ 0 BNVL = 1.17 GRADIENT INTERVAL = -9.00V 5.00

BNVL	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CBL	CV	KCP/L	CAB
.180	-4.170	-.28490	.06470	.06830	-.20000	.04312	-.00190	-.00010	.00190	.75000	.04636
.180	-2.100	-.18770	.05560	.07130	-.18000	.04070	-.00210	-.00010	.00190	.75000	.04568
.180	-.780	-.09430	.04990	.07330	-.08450	.04805	-.00220	-.00020	.00190	.93900	.04808
.180	1.990	-.00040	.04000	.07500	.00120	.04800	-.00240	-.00010	.00190	-21.87500	.04373
.180	4.040	.09260	.09260	.08090	.09610	.04379	-.00240	-.00020	.00190	.33900	.04290
.180	6.090	.18830	.09570	.08570	.19120	.03560	-.00250	-.00010	.00190	.48400	.04279
.180	8.180	.28810	.06570	.09140	.29280	.02433	-.00250	-.00030	.00190	.53400	.04108
.180	10.240	.38200	.07400	.09610	.39030	.01964	-.00260	-.00050	.00190	.55000	.04179
.180	12.290	.48320	.07990	.10000	.48300	-.00717	-.00330	-.00020	.00190	.57500	.04208
.180	14.390	.58790	.12670	.10430	.60100	-.02343	-.00360	.00000	.00190	.58900	.04293
.180	16.450	.69230	.18100	.10810	.70070	-.04102	-.00340	.00090	.00190	.59400	.04332
.180	18.520	.79670	.22470	.11230	.82090	-.06017	-.00370	.00120	.00190	.61400	.04494
.180	20.620	.89770	.26180	.11700	.93940	-.08262	-.00320	.00130	.00190	.61900	.04592
.180	22.630	.97130	.34040	.11730	1.02750	-.08001	-.00310	.00140	.00190	.61100	.04646
.180	24.720	1.03080	.41060	.11130	1.11520	-.06121	-.00300	.00140	.00190	.61300	.04683
.180	GRADIENT	.04996	-.00166	.00144	.04664	.00017	-.00296	-.00011	-.00000	-1.13336	-.04741









DATE 10 OCT 73

170 JUL 73

PARAMETER SOURCE DATA NAME - P10 DATA

170 JUL 73

PARAMETRIC DATA

REFERENCE DATA

REF : 0.010 00.07. REF : 00.0000 000000  
LAT : 10.0000 000000 REF : 0000 000000  
LONG : 10.0000 000000 REF : 10.0000 000000  
SCALE : 1.0000 SCALE

REF : 10.0000 000000 REF : 10.0000 000000

REF	Q	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59	Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67	Q68	Q69	Q70	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78	Q79	Q80	Q81	Q82	Q83	Q84	Q85	Q86	Q87	Q88	Q89	Q90	Q91	Q92	Q93	Q94	Q95	Q96	Q97	Q98	Q99	Q100	Q101	Q102	Q103	Q104	Q105	Q106	Q107	Q108	Q109	Q110	Q111	Q112	Q113	Q114	Q115	Q116	Q117	Q118	Q119	Q120	Q121	Q122	Q123	Q124	Q125	Q126	Q127	Q128	Q129	Q130	Q131	Q132	Q133	Q134	Q135	Q136	Q137	Q138	Q139	Q140	Q141	Q142	Q143	Q144	Q145	Q146	Q147	Q148	Q149	Q150	Q151	Q152	Q153	Q154	Q155	Q156	Q157	Q158	Q159	Q160	Q161	Q162	Q163	Q164	Q165	Q166	Q167	Q168	Q169	Q170	Q171	Q172	Q173	Q174	Q175	Q176	Q177	Q178	Q179	Q180	Q181	Q182	Q183	Q184	Q185	Q186	Q187	Q188	Q189	Q190	Q191	Q192	Q193	Q194	Q195	Q196	Q197	Q198	Q199	Q200	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Q209	Q210	Q211	Q212	Q213	Q214	Q215	Q216	Q217	Q218	Q219	Q220	Q221	Q222	Q223	Q224	Q225	Q226	Q227	Q228	Q229	Q230	Q231	Q232	Q233	Q234	Q235	Q236	Q237	Q238	Q239	Q240	Q241	Q242	Q243	Q244	Q245	Q246	Q247	Q248	Q249	Q250	Q251	Q252	Q253	Q254	Q255	Q256	Q257	Q258	Q259	Q260	Q261	Q262	Q263	Q264	Q265	Q266	Q267	Q268	Q269	Q270	Q271	Q272	Q273	Q274	Q275	Q276	Q277	Q278	Q279	Q280	Q281	Q282	Q283	Q284	Q285	Q286	Q287	Q288	Q289	Q290	Q291	Q292	Q293	Q294	Q295	Q296	Q297	Q298	Q299	Q300	Q301	Q302	Q303	Q304	Q305	Q306	Q307	Q308	Q309	Q310	Q311	Q312	Q313	Q314	Q315	Q316	Q317	Q318	Q319	Q320	Q321	Q322	Q323	Q324	Q325	Q326	Q327	Q328	Q329	Q330	Q331	Q332	Q333	Q334	Q335	Q336	Q337	Q338	Q339	Q340	Q341	Q342	Q343	Q344	Q345	Q346	Q347	Q348	Q349	Q350	Q351	Q352	Q353	Q354	Q355	Q356	Q357	Q358	Q359	Q360	Q361	Q362	Q363	Q364	Q365	Q366	Q367	Q368	Q369	Q370	Q371	Q372	Q373	Q374	Q375	Q376	Q377	Q378	Q379	Q380	Q381	Q382	Q383	Q384	Q385	Q386	Q387	Q388	Q389	Q390	Q391	Q392	Q393	Q394	Q395	Q396	Q397	Q398	Q399	Q400	Q401	Q402	Q403	Q404	Q405	Q406	Q407	Q408	Q409	Q410	Q411	Q412	Q413	Q414	Q415	Q416	Q417	Q418	Q419	Q420	Q421	Q422	Q423	Q424	Q425	Q426	Q427	Q428	Q429	Q430	Q431	Q432	Q433	Q434	Q435	Q436	Q437	Q438	Q439	Q440	Q441	Q442	Q443	Q444	Q445	Q446	Q447	Q448	Q449	Q450	Q451	Q452	Q453	Q454	Q455	Q456	Q457	Q458	Q459	Q460	Q461	Q462	Q463	Q464	Q465	Q466	Q467	Q468	Q469	Q470	Q471	Q472	Q473	Q474	Q475	Q476	Q477	Q478	Q479	Q480	Q481	Q482	Q483	Q484	Q485	Q486	Q487	Q488	Q489	Q490	Q491	Q492	Q493	Q494	Q495	Q496	Q497	Q498	Q499	Q500	Q501	Q502	Q503	Q504	Q505	Q506	Q507	Q508	Q509	Q510	Q511	Q512	Q513	Q514	Q515	Q516	Q517	Q518	Q519	Q520	Q521	Q522	Q523	Q524	Q525	Q526	Q527	Q528	Q529	Q530	Q531	Q532	Q533	Q534	Q535	Q536	Q537	Q538	Q539	Q540	Q541	Q542	Q543	Q544	Q545	Q546	Q547	Q548	Q549	Q550	Q551	Q552	Q553	Q554	Q555	Q556	Q557	Q558	Q559	Q560	Q561	Q562	Q563	Q564	Q565	Q566	Q567	Q568	Q569	Q570	Q571	Q572	Q573	Q574	Q575	Q576	Q577	Q578	Q579	Q580	Q581	Q582	Q583	Q584	Q585	Q586	Q587	Q588	Q589	Q590	Q591	Q592	Q593	Q594	Q595	Q596	Q597	Q598	Q599	Q600	Q601	Q602	Q603	Q604	Q605	Q606	Q607	Q608	Q609	Q610	Q611	Q612	Q613	Q614	Q615	Q616	Q617	Q618	Q619	Q620	Q621	Q622	Q623	Q624	Q625	Q626	Q627	Q628	Q629	Q630	Q631	Q632	Q633	Q634	Q635	Q636	Q637	Q638	Q639	Q640	Q641	Q642	Q643	Q644	Q645	Q646	Q647	Q648	Q649	Q650	Q651	Q652	Q653	Q654	Q655	Q656	Q657	Q658	Q659	Q660	Q661	Q662	Q663	Q664	Q665	Q666	Q667	Q668	Q669	Q670	Q671	Q672	Q673	Q674	Q675	Q676	Q677	Q678	Q679	Q680	Q681	Q682	Q683	Q684	Q685	Q686	Q687	Q688	Q689	Q690	Q691	Q692	Q693	Q694	Q695	Q696	Q697	Q698	Q699	Q700	Q701	Q702	Q703	Q704	Q705	Q706	Q707	Q708	Q709	Q710	Q711	Q712	Q713	Q714	Q715	Q716	Q717	Q718	Q719	Q720	Q721	Q722	Q723	Q724	Q725	Q726	Q727	Q728	Q729	Q730	Q731	Q732	Q733	Q734	Q735	Q736	Q737	Q738	Q739	Q740	Q741	Q742	Q743	Q744	Q745	Q746	Q747	Q748	Q749	Q750	Q751	Q752	Q753	Q754	Q755	Q756	Q757	Q758	Q759	Q760	Q761	Q762	Q763	Q764	Q765	Q766	Q767	Q768	Q769	Q770	Q771	Q772	Q773	Q774	Q775	Q776	Q777	Q778	Q779	Q780	Q781	Q782	Q783	Q784	Q785	Q786	Q787	Q788	Q789	Q790	Q791	Q792	Q793	Q794	Q795	Q796	Q797	Q798	Q799	Q800	Q801	Q802	Q803	Q804	Q805	Q806	Q807	Q808	Q809	Q810	Q811	Q812	Q813	Q814	Q815	Q816	Q817	Q818	Q819	Q820	Q821	Q822	Q823	Q824	Q825	Q826	Q827	Q828	Q829	Q830	Q831	Q832	Q833	Q834	Q835	Q836	Q837	Q838	Q839	Q840	Q841	Q842	Q843	Q844	Q845	Q846	Q847	Q848	Q849	Q850	Q851	Q852	Q853	Q854	Q855	Q856	Q857	Q858	Q859	Q860	Q861	Q862	Q863	Q864	Q865	Q866	Q867	Q868	Q869	Q870	Q871	Q872	Q873	Q874	Q875	Q876	Q877	Q878	Q879	Q880	Q881	Q882	Q883	Q884	Q885	Q886	Q887	Q888	Q889	Q890	Q891	Q892	Q893	Q894	Q895	Q896	Q897	Q898	Q899	Q900	Q901	Q902	Q903	Q904	Q905	Q906	Q907	Q908	Q909	Q910	Q911	Q912	Q913	Q914	Q915	Q916	Q917	Q918	Q919	Q920	Q921	Q922	Q923	Q924	Q925	Q926	Q927	Q928	Q929	Q930	Q931	Q932	Q933	Q934	Q935	Q936	Q937	Q938	Q939	Q940	Q941	Q942	Q943	Q944	Q945	Q946	Q947	Q948	Q949	Q950	Q951	Q952	Q953	Q954	Q955	Q956	Q957	Q958	Q959	Q960	Q961	Q962	Q963	Q964	Q965	Q966	Q967	Q968	Q969	Q970	Q971	Q972	Q973	Q974	Q975	Q976	Q977	Q978	Q979	Q980	Q981	Q982	Q983	Q984	Q985	Q986	Q987	Q988	Q989	Q990	Q991	Q992	Q993	Q994	Q995	Q996	Q997	Q998	Q999	Q1000	Q1001	Q1002	Q1003	Q1004	Q1005	Q1006	Q1007	Q1008	Q1009	Q1010	Q1011	Q1012	Q1013	Q1014	Q1015	Q1016	Q1017	Q1018	Q1019	Q1020	Q1021	Q1022	Q1023	Q1024	Q1025	Q1026	Q1027	Q1028	Q1029	Q1030	Q1031	Q1032	Q1033	Q1034	Q1035	Q1036	Q1037	Q1038	Q1039	Q1040	Q1041	Q1042	Q1043	Q1044	Q1045	Q1046	Q1047	Q1048	Q1049	Q1050	Q1051	Q1052	Q1053	Q1054	Q1055	Q1056	Q1057	Q1058	Q1059	Q1060	Q1061	Q1062	Q1063	Q1064	Q1065	Q1066	Q1067	Q1068	Q1069	Q1070	Q1071	Q1072	Q1073	Q1074	Q1075	Q1076	Q1077	Q1078	Q1079	Q1080	Q1081	Q1082	Q1083	Q1084	Q1085	Q1086	Q1087	Q1088	Q1089	Q1090	Q1091	Q1092	Q1093	Q1094	Q1095	Q1096	Q1097	Q1098	Q1099	Q1100	Q1101	Q1102	Q1103	Q1104	Q1105	Q1106	Q1107	Q1108	Q1109	Q1110	Q1111	Q1112	Q1113	Q1114	Q1115	Q1116	Q1117	Q1118	Q1119	Q1120	Q1121	Q1122	Q1123	Q1124	Q1125	Q1126	Q1127	Q1128	Q1129	Q1130	Q1131	Q1132	Q1133	Q1134	Q1135	Q1136	Q1137	Q1138	Q1139	Q1140	Q1141	Q1142	Q1143	Q1144	Q1145	Q1146	Q1147	Q1148	Q1149	Q1150	Q1151	Q1152	Q1153	Q1154	Q1155	Q1156	Q1157	Q1158	Q1159	Q1160	Q1161	Q1162	Q1163	Q1164	Q1165	Q1166	Q1167	Q1168	Q1169	Q1170	Q1171	Q1172	Q1173	Q1174	Q1175	Q1176	Q1177	Q1178	Q1179	Q1180	Q1181	Q1182	Q1183	Q1184	Q1185	Q1186	Q1187	Q1188	Q1189	Q1190	Q1191	Q1192	Q1193	Q1194	Q1195	Q1196	Q1197	Q1198	Q1199	Q1200	Q1201	Q1202	Q1203	Q1204	Q1205	Q1206	Q1207	Q1208	Q1209	Q1210	Q1211	Q1212	Q1213	Q1214	Q1215	Q1216	Q1217	Q1218	Q1219	Q1220	Q1221	Q1222	Q1223	Q1224	Q1225	Q1226	Q1227	Q1228	Q1229	Q1230	Q1231	Q1232	Q1233	Q1234	Q1235	Q1236	Q1237	Q1238	Q1239	Q1240	Q1241	Q1242	Q1243	Q1244	Q1245	Q1246	Q1247	Q1248	Q1249	Q1250	Q1251	Q1252	Q1253	Q1254	Q1255	Q1256	Q1257	Q1258	Q1259	Q1260	Q1261	Q1262	Q1263	Q1264	Q1265	Q1266	Q1267	Q1268	Q1269	Q1270	Q1271	Q1272	Q1273	Q1274	Q1275	Q1276	Q1277	Q1278	Q1279	Q1280	Q1281	Q1282	Q1283	Q1284	Q1285	Q1286	Q1287	Q1288	Q1289	Q1290	Q1291	Q1292	Q1293	Q1294	Q1295	Q129
-----	---	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------

DATE 12 JUL 75

LABORATORY SOURCE DATA NAME-MIS DATA

DATA SITE NAME MAPS WGS82/1973 TO

REFERENCE DATA

REF : 4.0110 30.07. WGS : 43.5070 INCHES  
 LREF : 10.2240 INCHES WGS : 10.0000 INCHES  
 MREF : 37.0330 INCHES WGS : 10.2700 INCHES  
 SCALE : 100% SCALE

MAP NO. 1007 2 RVL : 1.17 GRADIENT INTERVAL : -9.000 9.00

WGS	ALPHA	CL	CD	CLP	CH	CAF	CM	CSL	CT	SCAL	CAD
1.00	-4.000	-0.0000	0.0000	-0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	-1.000	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	0.000	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	2.110	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	4.170	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	6.270	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	8.270	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	10.340	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	12.430	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	14.570	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	16.500	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	18.400	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	20.270	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	22.000	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
1.00	24.000	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000

OPAC1007

DATE OF OCT 73

LABORATORY DATA NAME-POS QAS1A

RECEIVED 149 JUL 73

PARAMETRIC DATA

BETA : 1.000  
ELEVATION : 10.000  
VOLUME : 1.000  
SLOPE : 99.000  
CANTILEVER : 1.000

REFERENCE DATA

REF : 4.0119 50.00  
REF : 43.9974 100.00  
REF : 10.2299 100.00  
REF : 37.9339 100.00  
SCALE : 100.00

REF NO. 17410 NAME : 1.17 GRADIENT INTERVAL : -9.00 9.00

REF NO.	ALPHA	CL	CLW	CLH	CLM	CLN	CLP	CLQ	CLR	CLS	CLT	CLU	CLV	CLW	CLX	CLY	CLZ	CLAA	CLAB	CLAC	CLAD	CLAE	CLAF	CLAG	CLAH	CLAI	CLAJ	CLAK	CLAL	CLAM	CLAN	CLAO	CLAP	CLAQ	CLAR	CLAS	CLAT	CLAU	CLAV	CLAW	CLAX	CLAY	CLAZ	CLBA	CLBB	CLBC	CLBD	CLBE	CLBF	CLBG	CLBH	CLBI	CLBJ	CLBK	CLBL	CLBM	CLBN	CLBO	CLBP	CLBQ	CLBR	CLBS	CLBT	CLBU	CLBV	CLBW	CLBX	CLBY	CLBZ	CLCA	CLCB	CLCC	CLCD	CLCE	CLCF	CLCG	CLCH	CLCI	CLCJ	CLCK	CLCL	CLCM	CLCN	CLCO	CLCP	CLCQ	CLCR	CLCS	CLCT	CLCU	CLCV	CLCW	CLCX	CLCY	CLCZ	CLDA	CLDB	CLDC	CLDD	CLDE	CLDF	CLDG	CLDH	CLDI	CLDJ	CLDK	CLDL	CLDM	CLDN	CLDO	CLDP	CLDQ	CLDR	CLDS	CLDT	CLDU	CLDV	CLDW	CLDX	CLDY	CLDZ	CLEA	CLEB	CLEC	CLED	CLEE	CLEF	CLEG	CLEH	CLEI	CLEJ	CLEK	CLEL	CLEM	CLEN	CLEO	CLEP	CLEQ	CLER	CLES	CLET	CLEU	CLEV	CLEW	CLEX	CLEY	CLEZ	CLFA	CLFB	CLFC	CLFD	CLFE	CLFF	CLFG	CLFH	CLFI	CLFJ	CLFK	CLFL	CLFM	CLFN	CLFO	CLFP	CLFQ	CLFR	CLFS	CLFT	CLFU	CLFV	CLFW	CLFX	CLFY	CLFZ	CLGA	CLGB	CLGC	CLGD	CLGE	CLGF	CLGG	CLGH	CLGI	CLGJ	CLGK	CLGL	CLGM	CLGN	CLGO	CLGP	CLGQ	CLGR	CLGS	CLGT	CLGU	CLGV	CLGW	CLGX	CLGY	CLGZ	CLHA	CLHB	CLHC	CLHD	CLHE	CLHF	CLHG	CLHH	CLHI	CLHJ	CLHK	CLHL	CLHM	CLHN	CLHO	CLHP	CLHQ	CLHR	CLHS	CLHT	CLHU	CLHV	CLHW	CLHX	CLHY	CLHZ	CLIA	CLIB	CLIC	CLID	CLIE	CLIF	CLIG	CLIH	CLIJ	CLIK	CLIL	CLIM	CLIN	CLIO	CLIP	CLIQ	CLIR	CLIS	CLIT	CLIU	CLIV	CLIW	CLIX	CLIY	CLIZ	CLJA	CLJB	CLJC	CLJD	CLJE	CLJF	CLJG	CLJH	CLJI	CLJJ	CLJK	CLJL	CLJM	CLJN	CLJO	CLJP	CLJQ	CLJR	CLJS	CLJT	CLJU	CLJV	CLJW	CLJX	CLJY	CLJZ	CLKA	CLKB	CLKC	CLKD	CLKE	CLKF	CLKG	CLKH	CLKI	CLKJ	CLKK	CLKL	CLKM	CLKN	CLKO	CLKP	CLKQ	CLKR	CLKS	CLKT	CLKU	CLKV	CLKW	CLKX	CLKY	CLKZ	CLLA	CLLB	CLLC	CLLD	CLLE	CLLF	CLLG	CLLH	CLLI	CLLJ	CLLK	CLLL	CLLM	CLLN	CLLO	CLLP	CLLQ	CLLR	CLLS	CLLT	CLLU	CLLV	CLLW	CLLX	CLLY	CLLZ	CLMA	CLMB	CLMC	CLMD	CLME	CLMF	CLMG	CLMH	CLMI	CLMJ	CLMK	CLML	CLMN	CLMO	CLMP	CLMQ	CLMR	CLMS	CLMT	CLMU	CLMV	CLMW	CLMX	CLMY	CLMZ	CLNA	CLNB	CLNC	CLND	CLNE	CLNF	CLNG	CLNH	CLNI	CLNJ	CLNK	CLNL	CLNM	CLNN	CLNO	CLNP	CLNQ	CLNR	CLNS	CLNT	CLNU	CLNV	CLNW	CLNX	CLNY	CLNZ	CLOA	CLOB	CLOC	CLOD	CLOE	CLOF	CLOG	CLOH	CLOI	CLOJ	CLOK	CLOL	CLOM	CLON	CLOO	CLOP	CLOQ	CLOR	CLOS	CLOT	CLOU	CLOV	CLOW	CLOX	CLOY	CLOZ	CLPA	CLPB	CLPC	CLPD	CLPE	CLPF	CLPG	CLPH	CLPI	CLPJ	CLPK	CLPL	CLPM	CLPN	CLPO	CLPP	CLPQ	CLPR	CLPS	CLPT	CLPU	CLPV	CLPW	CLPX	CLPY	CLPZ	CLQA	CLQB	CLQC	CLQD	CLQE	CLQF	CLQG	CLQH	CLQI	CLQJ	CLQK	CLQL	CLQM	CLQN	CLQO	CLQP	CLQQ	CLQR	CLQS	CLQT	CLQU	CLQV	CLQW	CLQX	CLQY	CLQZ	CLRA	CLRB	CLRC	CLRD	CLRE	CLRF	CLRG	CLRH	CLRI	CLRJ	CLRK	CLRL	CLRM	CLRN	CLRO	CLRP	CLRQ	CLRR	CLRS	CLRT	CLRU	CLRV	CLRW	CLRX	CLRY	CLRZ	CLSA	CLSB	CLSC	CLSD	CLSE	CLSF	CLSG	CLSH	CLSI	CLSJ	CLSK	CLSL	CLSM	CLSN	CLSO	CLSP	CLSQ	CLSR	CLSS	CLST	CLSU	CLSV	CLSW	CLSX	CLSY	CLSZ	CLTA	CLTB	CLTC	CLTD	CLTE	CLTF	CLTG	CLTH	CLTI	CLTJ	CLTK	CLTL	CLTM	CLTN	CLTO	CLTP	CLTQ	CLTR	CLTS	CLTT	CLTU	CLTV	CLTW	CLTX	CLTY	CLTZ	CLUA	CLUB	CLUC	CLUD	CLUE	CLUF	CLUG	CLUH	CLUI	CLUJ	CLUK	CLUL	CLUM	CLUN	CLUO	CLUP	CLUQ	CLUR	CLUS	CLUT	CLUU	CLUV	CLUW	CLUX	CLUY	CLUZ	CLVA	CLVB	CLVC	CLVD	CLVE	CLVF	CLVG	CLVH	CLVI	CLVJ	CLVK	CLVL	CLVM	CLVN	CLVO	CLVP	CLVQ	CLVR	CLVS	CLVT	CLVU	CLVV	CLVW	CLVX	CLVY	CLVZ	CLWA	CLWB	CLWC	CLWD	CLWE	CLWF	CLWG	CLWH	CLWI	CLWJ	CLWK	CLWL	CLWM	CLWN	CLWO	CLWP	CLWQ	CLWR	CLWS	CLWT	CLWU	CLWV	CLWW	CLWX	CLWY	CLWZ	CLXA	CLXB	CLXC	CLXD	CLXE	CLXF	CLXG	CLXH	CLXI	CLXJ	CLXK	CLXL	CLXM	CLXN	CLXO	CLXP	CLXQ	CLXR	CLXS	CLXT	CLXU	CLXV	CLXW	CLXX	CLXY	CLXZ	CLYA	CLYB	CLYC	CLYD	CLYE	CLYF	CLYG	CLYH	CLYI	CLYJ	CLYK	CLYL	CLYM	CLYN	CLYO	CLYP	CLYQ	CLYR	CLYS	CLYT	CLYU	CLYV	CLYW	CLYX	CLYI	CLYZ	CLZA	CLZB	CLZC	CLZD	CLZE	CLZF	CLZG	CLZH	CLZI	CLZJ	CLZK	CLZL	CLZM	CLZN	CLZO	CLZP	CLZQ	CLZR	CLZS	CLZT	CLZU	CLZV	CLZW	CLZX	CLZY	CLZZ
---------	-------	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-703 QM21A

PAGE 123

QAE1 B17C7M7 MIF5 M107E2SV7R6 19

(RDP171) ( 59 JUL 73 )

# REFERENCE DATA

SREF = 4.4119 SQ.FT. XMRP = 43.5974 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2000 INCHES  
 SCALE = .0403 SCALE

DETA = .0000 DDTAP = -10.0000  
 ELEVW = 10.0000 AILCON = .0000  
 VLLINC = .0000 RUCCER = .0000  
 SFBOR = 35.0000 CANARD = .0000

# PARAMETRIC DATA

RUN NO. 171/ 0 RVL = 1.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	COF	CLN	CM	CAF	CYN	CE	CY	NCP/L	CAB
.160	-4.050	-.09050	.05770	-.03490	-.09440	.09244	-.01120	.00480	.00390	.91300	.05405
.160	-2.010	.00310	.05900	-.02750	.00110	.05514	-.01130	.00480	.00390	.91300	.05317
.160	.340	.09630	.05580	-.01960	.09630	.05573	-.01130	.00480	.00390	.91300	.05232
.160	2.110	.19450	.06020	-.01320	.19660	.05299	-.01130	.00480	.00390	.91300	.05144
.160	4.160	.29090	.06700	-.01370	.29530	.04577	-.01130	.00480	.00390	.91300	.05121
.160	6.220	.36920	.07900	.00490	.39530	.03636	-.01130	.00480	.00390	.91300	.04936
.160	8.290	.46810	.09350	.01330	.49650	.02217	-.01130	.00480	.00390	.91300	.04901
.160	10.350	.56860	.11420	.02190	.59950	.01637	-.01130	.00480	.00390	.91300	.04930
.160	12.450	.69270	.14080	.02830	.71680	-.01171	-.01130	.00480	.00390	.91300	.05117
.160	14.520	.83310	.17710	.03370	.82190	-.02994	-.01130	.00480	.00390	.91300	.05228
.160	16.590	.91710	.22110	.03370	.94230	-.04778	-.01130	.00480	.00390	.91300	.05308
.160	18.640	1.02680	.29370	.03420	1.06970	-.04778	-.01130	.00480	.00390	.91300	.05350
.160	20.730	1.12690	.36750	.03550	1.18410	-.05576	-.01130	.00480	.00390	.91300	.05400
.160	22.810	1.22750	.45690	.03600	1.29420	-.05471	-.01130	.00480	.00390	.91300	.05321
.160	24.880	1.33450	.55700	.02590	1.44210	-.06266	-.01130	.00480	.00390	.91300	.05140
GRADIENT		.04646	.00123	.00373	.03744	-.04676	-.01130	.00480	.00390	.91300	-.01130

LABULATED SOURCE DATA ANALYSIS

DATE 10 OCT 75

1000:02 1:0 JUL 75

0421 0:007 0405 001020000 19

PARAMETRIC DATA

REFERENCE DATA

SWEP : 4.419 50.0% WHP : 43.9974 INCHES  
 LHP : 19.2299 INCHES WHP : 0.0000 INCHES  
 SWEP : 37.9399 INCHES WHP : 10.8000 INCHES  
 SCALE : 1.405 SCALE

DATA :  
 ELEM :  
 VTIC :  
 STER :  
 BOP :  
 ALUM :  
 RUCC :  
 1000

RUN NO. 172/0 BUL : 1.84 GRADIENT INTERVAL : -5.00/ 5.00

WACH	ALPHA	CL	CD	CLM	CM	CAF	CYN	CEL	CV	ICP/L	CAB
.200	-4.230	-20137	00400	04120	-20310	01924	-00190	04000	04000	04000	04000
.200	-2.140	-11059	00720	04000	-10440	00214	-00130	-00130	04000	04000	04000
.200	-1.500	-06000	00300	04000	-00000	00330	-00140	-00140	04000	04000	04000
.200	2.140	00000	00220	04100	00000	00122	-00130	-00130	04000	04000	04000
.200	4.110	12370	00410	04130	12310	00117	-00130	-00130	04000	04000	04000
.200	6.230	22150	00930	04230	22340	00074	-00130	-00130	04000	04000	04000
.200	8.330	31910	00980	04200	32140	00073	-00130	-00130	04000	04000	04000
.200	10.440	41000	00510	04200	42190	00070	-00130	-00130	04000	04000	04000
.200	12.550	50170	00490	04200	50540	00063	-00130	-00130	04000	04000	04000
.200	14.670	60000	00390	04200	60390	00060	-00130	-00130	04000	04000	04000
.200	16.790	70420	00330	04200	70390	00053	-00130	-00130	04000	04000	04000
.200	18.900	80400	00240	04200	80750	00046	-00130	-00130	04000	04000	04000
.200	21.050	90430	00190	04200	90900	00035	-00130	-00130	04000	04000	04000
.200	23.170	1.04000	00140	04200	1.10110	00028	-00130	-00130	04000	04000	04000
.200	25.290	1.12400	00100	04200	1.19040	00022	-00130	-00130	04000	04000	04000
.200	27.410	1.20800	00060	04200	1.27910	00015	-00130	-00130	04000	04000	04000
.200	29.530	1.29200	00020	04200	1.36780	00008	-00130	-00130	04000	04000	04000
.200	31.650	1.37600	00000	04200	1.45650	00001	-00130	-00130	04000	04000	04000

GRADIENT



DATE 02 OCT 73

TABULATED SOURCE DATA NAAL-703 OMZ1A

PAGE 129

OMZ1 B17C7 WAFS W107253VTR6 W3

(ZDR173) ( 20 AUG 73 )

## REFERENCE DATA

SREF = 4.4116 50.FT. XMRP = 43.5574 INCHES  
 LREF = 19.2299 INCHES YMRP = .0000 INCHES  
 BREF = 37.9359 INCHES ZMRP = 16.2500 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .0001 BDCAP = -10.0000  
 ELEVON = 5.0000 AILRON = .0000  
 VLEIN = .0000 RUDDER = .0000  
 SPOON = .0000

RUN NO. 173/ 0 RN/L = 1.84 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CD	CLM	CN	CAP	CYN	CBL	CV	XCP/L	CAB
.260	-4.170	-1.16730	.03070	-.00110	-.16900	.01276	-.00120	.00100	.00400	.64700	.03634
.260	-2.050	-.07080	.02470	-.00110	-.07130	.02219	-.00110	.00100	.00300	.64300	.03670
.260	.020	.02540	.02370	-.00120	.02540	.02370	-.00100	.00100	.00300	.66800	.03611
.260	2.130	.12260	.02560	-.00150	.12370	.12310	-.00090	.00160	.00200	.65400	.03577
.260	4.210	.21920	.03030	-.00150	.22180	.01414	-.00110	.00160	.00300	.65200	.03529
.260	6.320	.31700	.03930	-.00170	.31940	.02413	-.00130	.00140	.00300	.65100	.03410
.260	8.420	.41340	.05180	-.00170	.41650	-.00323	-.00140	.00120	.00400	.65100	.03362
.260	10.520	.51270	.06490	-.00130	.51670	-.02383	-.00160	.00190	.00500	.65000	.03475
.260	12.630	.61260	.08120	-.00140	.61840	-.04319	-.00190	.00130	.00600	.65000	.03554
.260	14.740	.72130	.10670	-.00140	.72960	-.06169	-.00220	.00150	.00600	.65200	.03670
.260	16.870	.83790	.16940	-.01110	.85100	-.08111	-.00230	.00110	.00600	.65400	.03846
.260	19.000	.93960	.24560	-.02270	.96840	-.07384	-.00240	-.00070	.00800	.65800	.04226
.260	21.120	1.03980	.31050	-.02720	1.08180	-.08508	-.00190	-.00070	.00800	.65900	.04530
.260	23.240	1.12600	.39070	-.03210	1.18480	-.08525	-.00160	-.00050	.00800	.65900	.04522
.260	25.350	1.19690	.46800	-.02800	1.28210	-.08052	-.00130	-.00030	.00300	.65700	.04574
GRADIENT		.04615	.00007	-.00006	.04655	-.00040	.00002	-.00005	-.00014	.04100	-.00014

0A21 817.7 MAF5 W07E23VTR6 X9

(RDP174) ( 09 JUL 73 )

## REFERENCE DATA

SREF = 4.4119 SQ.FT. XREF = 43.5974 INCHES  
 LREF = 19.2299 INCHES YREF = .0000 INCHES  
 BREF = 37.9359 INCHES ZREF = 16.2000 INCHES  
 SCALE = .0405 SCALE

## PARAMETRIC DATA

BETA = .0000 BOFLAP = -18.0000  
 ELEVON = -.5000 AILRON = .0000  
 VTI,INC = .0000 RUDDER = .0000  
 SFCORR = .0000

RUN NO. 174/ 0 RN/L = 1.84 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CDF	CLM	CN	CAF	CYN	CBL	CY	XCF/L	CAB
.260	-4.320	-3.6930	.04490	.06990	-.37160	.01689	-.00100	.00140	.00400	.73800	.03116
.260	-2.220	-.27220	.03360	.08870	-.27310	.02308	-.00110	.00130	.00400	.76300	.03194
.260	-.130	-.17260	.02670	.08820	-.17270	.02632	-.00110	.00110	.00400	.83700	.03117
.260	1.970	-.07480	.02200	.08840	-.07400	.02460	-.00100	.00110	.00300	1.06900	.03136
.260	4.090	.01970	.02100	.08860	-.02120	.01957	-.00090	.00120	.00300	-.89100	.03111
.260	6.210	.11620	.02280	.08950	.11800	.01009	-.00090	.00100	.00300	.37500	.03029
.260	8.270	.21350	.02880	.09160	.21550	-.00222	-.00090	.00080	.00300	.49500	.03047
.260	10.370	.31210	.04000	.09110	.31420	-.01681	-.00110	.00060	.00400	.54300	.03057
.260	12.470	.41390	.05740	.09100	.41650	-.03335	-.00150	.00070	.00400	.56900	.03142
.260	14.610	.52690	.08350	.08820	.53090	-.03213	-.00180	.00110	.00300	.58800	.03304
.260	16.730	.64050	.11890	.08380	.64780	-.07045	-.00190	.00060	.00300	.60200	.03458
.260	18.830	.74910	.14500	.07310	.76270	-.06675	-.00090	-.00030	.02100	.61600	.03743
.260	20.950	.85500	.24170	.06490	.88490	-.08001	-.01010	-.00400	.02200	.62200	.04067
.260	23.090	.95300	.30670	.06080	.99700	-.09171	-.00090	-.00400	.02400	.62700	.04342
.260	25.210	1.04100	.38440	.05610	1.10550	-.09573	-.00550	-.00510	.01800	.63100	.04739
.260		.04659	-.00284	-.00012	.04705	.00233	-.00201	-.00003	-.00014	-.14009	-.00003

GRADIENT